University of Alberta

Understanding Synchronous Online and Face-to-face Communication with EFL Learners

©

by

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This dissertation is dedicated with love to
my mother.

Abstract

This study investigated how L2 discourses were differed in computer-mediated communication (CMC) and face-to-face (FTF) communication. Incorporating insights from social-interactionist and discourse-analytic perspectives, this study investigated the conversations of Korean English teachers engaging in two activities: an information gap task and role playing, both common second language classroom activities. In particular, this research focused on the conversations of triad groups whose pedagogical advantages in CMC have not been investigated until now, even though small group work has often been employed in FTF.

This study revealed that L2 discourse patterns constantly changed on their own in every activity, regardless of communication modes, activity types, or the amount of negotiation. This indicates that L2 practices were not singularly conditioned by the influences of a particular factor, and were rather constantly shaped by multiple factors and their relationships to each other. The qualitative analysis of the data also demonstrated that the different activities in distinct learning contexts provided diverse opportunities for negotiating meaning as well as for divergent qualities of discourse to the participants. The different activities in the

two different learning contexts led L2 participants not only to use a varied quality of L2 discourses, but also to engage in a dissimilar quality of negotiations in FTF and CMC.

The examination on those factors provided some useful insights on how the CMC triad group conversations should be employed for effective L2 learning. This study concluded that in order to broaden the rich learning opportunities of CMC small group activities, it would be critical to consider the constraints of CMC and to give more careful attention to the questions concerning how CMC influences the learners' language, behavior, and their relationship, as well as developing CMC group work practices that focus on learners as agents who have varying interests and motivational responses.

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Table of Contents

Chapter I. Introduction 1

1.1 Background to the Questions 1

1.2 Theoretical Background 7

1.3 Central Research Questions 15

1.4 Importance of the Study 16

1.5 Definition of Terms 18

1.6 Limitations 21

Chapter II. Literature Review 26

2.1 Second Language Acquisition (SLA) 26

2.1.1 Universal Grammar 29

2.1.2 The Discourse Hypothesis 32

2.1.3 The Social Interaction Hypothesis 34

2.1.4 Interactionist Perspectives in SLA 39

2.1.5 Sociocultural Perspective in SLA 42

2.1.6 Task-based Interaction 44

2.2 Computer-mediated Communication (CMC) 51

2.2.1 CMC for Teaching Composition 55

2.2.2 Synchronous CMC for Foreign/Second Language Learning 56

2.2.3 Negotiation of Meaning in CMC 60

2.2.4 The Controversial Issues of 'Negotiation of Meaning in CALL Research 68

2.2.5 A Possible Direction of CALL Interaction Research 78

Chapter III. Research Design 85

3.1 Study Population 86

3.2 Setting Procedures, and Materials 89

3.3 Data Collection 94

3.3.1 Video/Audio Tape that Recorded the Conversation 95

3.3.2 Transcripts of the MSN Chatting Log 96

3.3.3 Survey 97

3.3.4 Writing Worksheet 100

3.4 Reliability and Validity 100

Chapter IV. Data Analysis Methods 105
4.1 Sinclair and Coulthard's IRF Model 108
4.2 Conversation Analysis 112
4.3 Rationale for Developing an Analytical Framework 118
4.4 The Intersubjective Model 121
4.4.1 Initiator 132
4.4.2 Continuer 134
4.4.3 Informer 138
4.4.4 Follow-up 144
4.5 Data Analysis 145

Chapter V. Findings of Different L2 Discourses in FTF and CMC 153
5.1 The Amount of Repair Negotiation in FTF and CMC 154
5.1.1 The Percentage of General Continuers 160
5.2 The Quality of L2 Discourses in FTF and CMC 162
5.3 L2 Discourse Patterns in FTF and CMC 173

Chapter VI Qualitative Findings of the Factors Affecting L2 Discourses 178
6.1 The Factors of Communication Modes Affecting L2 Discourse in FTF and CMC 179
6.1.1 Turn Taking System 180
6.1.2 Non-Verbal cues 184
6.1.3 Different Language Skills Required in FTF and CMC 190
6.1.4 Different Interactive Patterns of FTF and CMC 201
6.2 Other Different Factors Leading L2 Discourses to Change in FTF and CMC 204
6.2.1 The Amount of Repair Negotiations 204
6.2.2 Different Discourse Roles and Identities 211
6.2.3 Participants' Strategies for Engaging in Interaction 218

Chapter VII. Conclusions and Implications 232
7.1 Summary of Conclusions 232
7.1.1 The Differences of L2 Discourses in FTF and CMC 234
7.1.2 The Factors That Affected L2 Discourses to Change 239
7.2 Implications of the Study 248
7.2.1 Implications for Task-based Interaction 248
7.2.2 Implications of Negotiation of Meaning 251
7.2.3 Implications for Changing L2 Discourse Patterns 256

7.2.4 Implications for Employing the CMC Triad Group Conversations for L2 Learning 259
7.2.5 Implications for Future Research 268

References 273
Appendix A. The Survey Questionnaire 289
Appendix B. The Consent Form 292

List of Figures

Figure 1	Proposed Model for Non-understandings	63
Figure 2	Types of pedagogical interaction	124
Figure 3	The Percentage of Negotiation Continuers in Each Activity	155
Figure 4	The Percentage of Each Negotiation Continuer in FTF Information Gap Activity	157
Figure 5	The Percentage of Each Negotiation Continuer in FTF Role Playing Activity	158
Figure 6	The Average Percentage of Each Continuer of All the Discourse Units in Each Activity	158
Figure 7-a	Group 1's Discourse Pattern of FTF Information Gap Activity	176
Figure 7-b	Group 1's Discourse Pattern of CMC Information Gap Activity	176
Figure 7-c	Group 1's Discourse Pattern of FTF Role Playing Activity	176
Figure 7-d	Group 1's Discourse Pattern of CMC Role Playing Activity	176
Figure 8-a	Hanna's Picture	186
Figure 8-b	Sean's Picture	187
Figure 9	Group 3's Rate of PI and PR in Each Activity	195
Figure 10	Group 1's Initiation Rate in Each Activity	212
Figure 11	Group 1's Continuer Rate in Each Activity	213

List of Tables

Table 1 The Demographic Information about the Participants 88
Table 2 The Total Diagram of NI, PI, PR, and NR 143
Table 3 The Frequency of Each Unit of Group 1 Information Gap Activity in FTF 149
Table 4 The Frequency of Each Unit of Group 1 FTF Information Gap Activity in Percentages 150
Table 5 The Number of Each Continuer Type in Group 1 FTF Information Gap Activity 150
Table 6 Group1's Continuers in FTF Information Gap Activity in Percentages 151
Table 7 The Total Percentage of PI and PR of Each Group in Each Activity 163
Table 8 The Average Amount of PI and PR in Each Activity for Two Sets of Groups in Percentages 167
Table 9 The Average Rate of NR in Each Activity for Two Sets of Groups in Percentages 169
Table 10 Group 1's Each Discourse Unit in FTF Information Gap Activity in Percentages 175
Table 11 The Rates of Initiation of All the Groups in Each Activity 180
Table 12 Group 4's Sequence of Topics in the CMC Role Playing Activity 185
Table 13 Discourse Units of Each Participant of Group 3 in Each Activity 193
Table 14 Harold's Rate of Informers, PI and PR, and NR in Each Activity 196
Table 15 The Percentage of NR Out of All the Discourse Units in Each Activity 208
Table 16 Group 5's Distribution of Discourse Units 225

Chapter I

Introduction

1.1 Background to the Questions

When I first moved to Canada from Korea and started my graduate studies, the frustration that I suffered from language difficulties was much more than I had expected. Sharing ideas through a discussion was a typical classroom activity in most of the graduate courses, but my English skills were not good enough to understand the students' utterances and to participate in their dynamic discussions. Most of the time in class, I sat in a seat in a corner of the room and kept silent throughout the term. Later, I discussed my problems with other foreign students and realized that I was not the only student who felt such isolation in the classroom.

I first experienced Computer-Mediated Communication (CMC) when I took a graduate course during the second year of my studies. The course was not an online course, but the professor adopted an online discussion as one of her main course activities and encouraged the students to use an asynchronous electronic bulletin board program for online discussion. The professor provided some reflective questions on the board and the students shared their ideas and knowledge regarding the questions through the online discussion.

At first, it was a challenge to all the students who were not familiar with using an online program. Although the concept of online learning was still very new to the instructor and students taking the course, we all eventually realized that this new online experience was bringing a very different dynamic to the class. From my experiences and through communicating with other students in the class, it seemed that I was the person who was the most impacted by the online activity. In this virtual space, I felt connected for the first time with other students. The online discussion fostered in me a feeling of belonging to a learning group that was often not possible in the traditional classroom. The online learning environment not only allowed me to have more control over what I learned and how I learned but also provided me with a more meaningful learning environment than a traditional classroom did, because it provided me with sufficient time to process what was being posted. This online experience motivated me to contemplate the uses of CMC for second language learning.

My first CMC experience as a SL (Second Language) instructor took place when I worked for the Kangwon Teacher Education Project (KTEP) that was offered by the Department of Secondary Education at the University of Alberta. The KTEP program was a teacher education program for Korean English teachers, and an English as a Second Language (ESL) program was one of its main curricular components. While I was working as an instructor for the KTEP program, I remembered my CMC experience from my graduate course and decided to try CMC as an ESL activity.

In this class, I networked the Korean teachers with some Northern Alberta Institute of Technology (NAIT; a technical institute) ESL students through a chatting program. The Korean English teachers and the NAIT ESL students were located in two different computer labs. Several activities for language learning were conducted through the online network. Surprisingly, after all the sessions were over, both the KTEP teachers and the NAIT ESL students told me that the activities they engaged in through the chatting program were very useful and exciting experiences for them. In addition, many teachers involved with the programs became very motivated to use computers in ESL activities. One teacher said, “I was a very brave English speaker while I was talking to others through the computer. I was not afraid of speaking English. I think that the learning effects would be very high, too.” Another teacher said, “I think the computer can be a good tool to learn English. I felt a dynamic excitement which I have never felt while I was doing classroom activities.”

As the teachers pointed out, I noticed that there were some different learning dynamics in CMC as opposed to traditional classroom instruction. First of all, text-based interactions through CMC seemed to lead the teachers to scroll back and re-think what had been discussed. Wells and Chang-Wells (1992) argued that making a record of text of thought available for reflection and a revisable written text serves as a cognitive amplifier and that it also allows the reader or writer to bootstrap his or her own thinking in a more powerful manner than is normally possible in speech. When I asked the teachers to summarize their stories after the CMC activities, most teachers looked back at their writings that were recorded on the computer. CMC provided the teachers with the chance to reflect on what had been discussed and to reformulate their own stories.

Another aspect of CMC that I noticed was the absence of non-verbal cues. Since there were no facial expressions and audio cues available in CMC, an individual's turn taking was often mixed up with others' and the participants had to work together to unravel the mixed-up discourse. This unraveling process seemed like chaos at first, but they eventually found their own way of organizing turn taking systems in the CMC context, and successfully accomplished the goal of the task. It was interesting to see how they were able to exchange their meanings in CMC where visual and audio cues were absent.

Thirdly, the quality of interaction in CMC seemed somewhat different from the quality of interaction in face-to-face (FTF) exchanges. The participants seemed to exchange a different amount and a different quality of negotiation in FTF and CMC, and the quality of interaction in the two environments also seemed to change according to the types of activities that were conducted. Some activities seemed to entail rather simple negotiations that promoted only the exchange of simple responses indicating agreement or disagreement, and other activities seemed to motivate the participants to engage in more complex negotiation that stimulated the participants to use elaboration and clarification. Furthermore, even the quality of discourse seemed to change within the two different modalities. The participants seemed to employ simple discourses more often in some activities, while they seemed to use complex discourses more frequently in other activities.

As a result of these experiences, I felt that CMC interactions and FTF interactions may differ in many ways not only in terms of their physical settings but also with respect to the system of interactions due to some constraints, such as visual and audio cues. Those differences seemed to each have unique advantages when used for second language learning, and seemed to provide the L2 learners with new learning experiences in somewhat different ways that has not yet been revealed.

My teaching experience with CMC provoked a lot of questions that needed to be investigated. Those questions were mainly related to issues regarding how specifically CMC interaction is different from FTF interaction. For example, the questions were whether the group discourses change in CMC and FTF; whether L2 learners use a different quality of discourse within the two communication modes; whether L2 learners engage in a similar amount or similar quality of negotiations in FTF and CMC; what factors make the L2 discourse change in the two environments; and whether CMC has any different advantages or disadvantages from FTF for second language learning. There were so many questions to be asked about CMC. I learned much through my experience, but my desire to know more about CMC experience pushed me to see the way ahead, because experience always brings another experience with new challenges and insights.

After exploring alternate ESL learning contexts in which I could conduct my research, I chose to use the KTEP program for my research site. Many of the ESL programs in Edmonton were for immigrants. After talking to some program managers and ESL teachers, I discovered that those programs were not appropriate for my research purposes, because many of the immigrants were illiterate and did not have typing skills. Because the purpose of my research question was to compare the L2 discourses in FTF and CMC, I needed to find L2 learners who were able to converse through CMC.

I decided that the KTEP program was suitable to my research purposes for two reasons. I was accustomed to the program as an instructor for many years and all the participants of the program were Korean English teachers who not only had typing skills good enough to talk through a computer chatting program but also had enough English speaking fluency to perform information gap activities and role playing activities that were common SL classroom tasks. After a discussion, the program director and I chose two consecutive days to conduct my research, so that the variables due to the time lapse would not interfere with the results.

1.2 Theoretical Background

Rapid technological change and the expanding use of computers are prompting change in the nature and scope of pedagogy in language learning and teaching. In particular, Computer-Mediated Communication (CMC) is considered one of the most useful technologies in providing second language learners with a rich opportunity to use the target language meaningfully and authentically. Kitade (2000) suggested that CMC could provide potential benefits for L2 learning, because it can provide meaningful and collaborative interaction, including contextualized communicative interaction. Ortegar (1997) also claimed that communicative investment and the meaningfulness and relevance achieved in Computer-Mediated Communication appeared to provide a context in which opportunities for language development were enhanced, since students were motivated to stretch their linguistic resources in order to meet the demands of real communication in a social context.

Along with technological innovations, there have been significant advances in theories of second language acquisition (SLA) in which a social and collaborative view of language learning is advocated in language learning and teaching practices, rather than adherence to a monolithic view that focuses only on cognitive and developmental theories of language learning (Lantolf, 2000, Lantolf & Apple, 1994; Duff, 1999). In other words, SLA researchers began to understand language learning not only as the process of cognition of an individual but also as a socially distributed phenomenon.

Thus, recent researchers and practitioners in SLA started to shift their focus from second language learning emphasizing linguistic accuracy or syntactic complexity to second language learning focusing on interaction to encourage the negotiation of meaning that plays an important role in bringing about comprehension (Pica, 1994). Long (1996) also explained that negotiations triggered by communication breakdown tend to increase input comprehensibility through language modification and restructuring, such as simplifications, elaboration, confirmation and comprehension checks, clarifications requests, or recasts. Toyoda and Harrison (2002) also argued oral interaction that requires negotiation of meaning is necessary for enhancing learners' interlanguage.

SLA research also suggests that some task activities stimulate negotiations of meaning and contribute to stretch interlanguage (Duff, 1986; Doughty & Pica, 1986; Long, 1989; Pica et al. 1993). Because the study of second language learning is shifting from the study of the language itself to a communicative approach, whereby learners use the target language through negotiation with others, tasks promoting communication have been stressed in SLA. For this reason, several studies have investigated the effects of several types of tasks on learners' performance in order to examine the negotiations among learners occurring during the tasks (Doughty and Pica, 1986; Duff, 1999; Pica et al., 1993; Shortreed, 1993).

In concert with the development of SLA theory stressing negotiation of meaning, many researchers in the area of Computer Assisted Language Learning (CALL) began to regard Computer-Mediated Communication (CMC) as a promising tool for promoting negotiation of meaning. In particular, synchronous computer mediated communication, which has features similar to face-to-face (FTF) communication in many aspects, is a new area that attracts interest from many researchers and practitioners in the area of second language learning. It is believed that this type of communication is optimal for devising online activities that facilitate and encourage negotiation of meaning, enabling second language learners to monitor and edit their language as they produce it (Kitade, 2000; Ortega, 1997; Pellettieri, 2000; Warshauer, 1998).

.Quite a number of CALL researchers investigated L2 interaction and negotiation in online environments (e.g.: Kelm, 1992; Chun, 1994; Sullivan & Pratt, 1996; Warschauer, 1998; Blake, 2000; Kern, 1995; Kitade, 2000; Sotillo, 2000; Pellettieri, 2000; Lee, 2001; 2002; Smith, 2003; 2004; Vandergriff, 2006). The findings demonstrated that CMC has several major benefits as compared to FTF interaction, such as increased participation, equity among students, increased quantity of learner output, and increased quality of learner output. The research results also suggested that CMC and FTF promote similar amounts of negotiation.

However, many of the studies that compared the L2 discourses in FTF and CMC only relied on the quantitative results, such as the amount of turn taking, the length of the turn taking, or the number of words. Few studies reported the qualitative comparison of the L2 interactions within the two communication modes. For example, the notion of negotiation of meaning has been emphasized in second language learning over the last few decades; however, little research has been done to investigate what discourses L2 learners actually use while they engage in negotiation of meaning in FTF and synchronous CMC environments. In the same vein, few studies have documented how specifically the L2 discourses in synchronous CMC are qualitatively different from the ones conducted by means of FTF. As a result, very little is known about the quality of the L2 discourses produced in synchronous CMC as compared to

FTF.

Recently, two studies investigated the quality of discourse occurring in CMC (Smith, 2003; Vandergriff, 2006). Smith (2003) examined communication strategy use among L2 learners in a CMC environment. He demonstrated that learners use a wide array of communication strategies during task-based CMC and that the CMC environment shapes this use. Vandergriff (2006) explored how learners use reception strategies to signal either lack of comprehension or current state of understanding in CMC or FTF. However, the data did not yield any correlation between individual learner characteristics, strategy use, and task medium. According to Vandergriff, the task and medium did not become independent variables because each participant completed each task in one medium only; consequently, the data concealed whether it was the task or the communication medium that had a differential effect on reception rates across data sets.

Motivated by the previous research findings, my research aims to explore the qualities of L2 discourse in CMC and FTF and to examine whether task types, communication mediums, or negotiations affect the quality of L2 discourse in FTF and CMC. In particular, my study focuses on L2 discourses engaging in two specific tasks known to contribute to the promotion of the negotiation of meaning: information gap activity and role playing activity. Information gap activity and role playing activity are common SL classroom tasks, but few have revealed how they are different with respect to the language produced when they are carried out within a CMC modality. In addition, this study also examined the discourses of triad groups. Until now, few researchers have examined triad groups of interaction, although the triad has been one of the common ways of grouping in second language learning classrooms.

Incorporating insights from the discourse-analytic perspective, this study employed primarily qualitative data but with some quantitative data for triangulation. For the qualitative analysis of L2 discourses in FTF and CMC, this study employed Conversation Analysis which provided insights into how the participants used the structure of conversation as means of comprehending what the other partners say and producing the corresponding responses (Markee, 2000). In other words, Conversational Analysis provided more explanation of the important details of how and why an individual discourse changed in different activities or within different communication modes. It was also helpful in revealing what factors affected the change of L2 discourses in different activities or within different communication modes.

For the quantitative analysis, this study developed the Intersubjective framework to get the L2 discourse patterns in each activity, providing much useful information with respect to the individual as well as group discourse patterns produced in each activity. For example, the L2 discourse patterns that were obtained from the Intersubjective model provided information regarding participant use of a different discourse pattern whenever he or she engaged in different activities within different communication modalities. They also provided information with respect to participant use of a particular discourse pattern that was different from the others in a group, and how his or her discourse pattern was different from the others in a group in each activity.

The complementary use of the qualitative and quantitative methods for my research was helpful in obtaining good insight into the change of the discourse patterns of the L2 group interactions in each activity, as well as providing detailed information of how each L2 learner contributes to build a specific group discourse pattern that changes according to the activity types and communication modes.

This study analyzed the conversations of six groups of three people in two activities in CMC and FTF: an information gap activity and a role playing activity. In an information gap activity, three sets of a theme picture were given to the participants, and those pictures had slightly differing details that must be shared with others in order to solve a problem. These types of activities have been known as effective in the L2 classroom as students are forced to negotiate meaning, since they must make what they are saying comprehensible to others in order to accomplish the task (Neu & Reeser, 1997). In the role playing activity, each person was assigned to a specific role to create a scenario. Unlike information gap activities, role playing activities did not ask students to make a predetermined solution, allowing them to think creatively and practice more creative language skills.

1.3 Central Research Questions:

1. Are L2 discourses different in FTF and synchronous CMC?

    Do L2 learners engage in similar types of negotiations in FTF and synchronous CMC (qualitatively and quantitatively)?

    Is the quality of L2 discourses different in FTF and synchronous CMC?

    Are L2 discourse patterns different in FTF and synchronous CMC?

2. If L2 discourses are different in FTF and CMC, how are they different?
3. What factors cause L2 discourse to change?

1.4 Importance of the Study

This study is important, in that it employed an emic approach to investigate how and to what extent L2 learner's discourses in CMC were different from those in FTF situations. Although there has been a growing body of research comparing the L2 discourses between CMC and FTF over the last ten years, most comparative studies have depended on an experimental, quantitatively oriented methodology, such as the number of words, the number of turns, the length of turns, or the amount of negotiations. However, using an emic approach, this study was able to examine the detailed pictures of how and why the L2 discourses changed according to the unfolding circumstances that constituted the group interaction within the two different communication modes.

This study is also important as it explains some aspects of the quality of L2 negotiations. Although there has been extensive investigation of the L2 negotiated interaction over the past two decades, very little has been known about the quality of

L2 negotiation in CMC due to the lack of theoretically motivated approaches. In order to investigate the quality of the L2 negotiation, this study developed a framework that could compare the qualities of the discourses that the L2 learners used while they engaged in negotiations. Furthermore, the use of an emic investigation of the L2 discourses was also able to provide deeper explanations of the quantitative data.

Another important aspect of this study is that it investigated triad group CMC interactions. Various configurations of small group work involving more than two people have often been considered an essential feature of communicative language teaching in FTF, because such groups increase language practice opportunities, improve the quality of student talk, help to individualize instruction, promote a positive affective climate, and motivate learners to learn (Ellis, 1994). However, most CALL studies have focused on dyad group interaction and the research findings on group interactions of three or more than three participants was rarely found. In order to expand the scope of small group activity in the CMC context, the investigation of the CMC triad group interaction has been imperative, and this study was important in providing more practical knowledge for the CMC triad group activity.

1.5 Definition of Terms

Face-to-Face interaction (FTF) refers to the direct interaction among the participants, such as the conventional interaction among the students or between students and teachers in the classroom.

Computer-Mediated Communication (CMC) refers to a variety of systems that enable people to communicate with other people by means of computers and networks. In this study especially, CMC refers to synchronous CMC.

Synchronous CMC means that communication is occurring online between two or more people at the same time but who are not necessarily located in the same place.

Negotiation of meaning was originally defined by Varonis and Gass (1985) as the modified interaction when communication breakdown occurs. However, in this study, the definition of negotiation of meaning was expanded to involve interactional adjustment among the interlocutors for collaborative progression as well as for communication breakdown. Negotiation of meaning is often characterized by interactional modifications such as comprehension checks, requests for clarification and confirmation, and other types of questions for clarification.

Repair negotiation is a process of conversational adjustment among interlocutors when incomplete understanding has occurred. The participants attempt to remedy their incomplete understanding by engaging in interactional work to secure mutual understanding.

L2 discourse pattern is used in this study to refer to the overall shape of L2 discourse units of an activity that constitute the transaction of each topic, and each discourse unit represents the participant's discourse roles within a transaction, such as initiator, continuer, informer, and feedback.

Group dynamics in this study specifically refers to the variation of the group discourse pattern in an activity. When the shape of the group discourse pattern in an activity changed into a different shape in another activity for some reason, it indicates a change of the group dynamics. The change of group dynamics also indicates the change of the discourse role of each participant in the group.

Closed tasks are small group tasks that require learners to arrive at a single correct solution or a restricted set of solutions. Examples of closed tasks include information gap activities and picture puzzle activities. Long (1989) has suggested that closed tasks produce a greater quantity and variety of negotiation than open-ended tasks.

Open-ended tasks are small group tasks that have no single predetermined solution, and examples of the open-ended tasks include storytelling, role playing, and free discussion.

Information gap activity is one of the closed tasks commonly used in SL classrooms. It involves the L2 participants engaging in the exchanges of information in situations where some information gap exists. In this study, three sets of a theme picture that had slightly different details were provided to the participants for the information gap activity. The participants needed to find the differences among the three sets of a theme picture by exchanging their information in their second language.

Role playing activity is an open ended task that is also normally carried out in FTF classrooms. In role-plays, a situation is presented to a small group of students who may prepare their parts. In this study, the participants were asked to use the situation of the theme pictures that were provided and to play the roles of the given characters in the picture.

Conversation analysis (commonly abbreviated as CA) is the study of talk in interaction. Inspired by ethno methodology, it was developed in the late 1960s and early 1970s, principally by the sociologist Harvey Sacks and his close associates Emanuel Schegloff and Gail Jefferson. CA initially focused on casual social talk that routinely occurs between friends and acquaintances and described this organizational structure in terms of sequences, turn-taking, and repair practices (Goodwin, 1981; Jefferson, 1974, 1978; Schegloff, 1968, 1990, 1992). However, since the late 1970s, increasing attention was given to analyzing the structure of talk that was used in institutional contexts including classroom contexts (Drew & Heritage, 1992).

1.6 Limitations

One of the main limitations of this study was that the interpretations of the results were mostly based on the video taped conversations of the participants engaging in the activities. Because of the difficulty in accessing the participants in order to hear their interpretation after collecting the data, the interpretations of the participants who engaged in the conversations were not obtained. Therefore, the possibility of different interpretations from the participants was not examined in this study.

Nevertheless, the video-taped conversation was able to provide some important context in which to interpret a specific conversation among the participants. For example, participants' gestures or behaviors, such as nodding or smiling, provided some extra information to understand and interpret their verbal conversation. In addition, the survey data that was collected from the participants also provided some participants' perspectives regarding an interpretation that could be understood from their conversations.

The data for this study was collected from a group of Korean English teachers attending an ESL program for a month at the University of Alberta. Therefore, this study is limited to investigating only the factors that were derived from the discourses of the particular EFL teachers, possibly missing some important factors that may exist in the discourses of different groups of ESL learners who use English as their second language in their daily lives, as well as other EFL learners who do not learn English for the purpose of teaching English.

In addition, since the participants of this study had backgrounds as English teachers in Korea, they may have had unique motivations and values that were different from general ESL or other EFL learners. However, although this study did not examine how the participants' possibly different motivations and values were embedded in the group discourses, it examined the extensive amount of conversational data of the six groups instead, so as to decrease the chances of being biased toward specific motivations or values and to obtain a better understanding on the general phenomenon of the L2 discourses. The emic approach that this study employed also provided a deeper understanding of how a specific intention or motivation of an individual discourse was related to the change of L2 discourses in each activity.

Another limitation of this study was that the quality of the L2 discourse used was analyzed by the complexity of the discourse content rather than by a systemic linguistic structure, such as lexical or morphosyntactic structures. In other words, this study categorized the quality of L2 discourse into two types of languages: formulaic discourses and productive discourses. Formulaic discourses involve simple language that do not require complex cognitive process to produce, such as "Yes," "No," "I have," "I don't have," or repetition of the previous speaker's utterance. On the other hand, productive discourses include the language that requires the participants' cognitive process to produce it.

For this reason, some bias may be inherent against some activities, which tended to elicit simple content responses more frequently because of the nature of the task. Because the discourse quality was evaluated only in terms of the complexity of the discourse content, the quality of the participants' discourses involving many formulaic discourses did not necessarily mean that the participants used a lexically or syntactically lower level of language in some particular activities.

Nevertheless, this study chose to compare the complexity of the discourse content rather than the complexity of the systemic linguistic structure, due to the judgment that it would not be easily revealed whether or not the communication modes affected the linguistic structures of the participants' use of second language. The contextual influences on the linguistic structures may not be revealed, unless they are examined in a longitudinal study because of the difficulty in distinguishing which contextual variables (for example, a communication mode or an individual style of second language use) affected the change of the linguistic structure of L2 discourse. Actually, the previous research that compared the linguistic structure of L2 discourses in FTF and CMC often reported contradictory results due to the difficulty of distinguishing the influence of the contextual variables (Warschauer, 1996; Chun, 1994).

Because the purpose of this study was to investigate the relationship between the L2 discourses and the contextual factors over a limited time, the study focused on revealing what particular activities tended to encourage L2 learners to use simple content responses rather than longer and more complex ones.

Another limitation of this study was that the quantity of the analyzed group discussions differed according to each group, because each group spent a different length of time for its activity regardless of the guidelines concerning assigned time for each activity. Some groups finished their activity early since they felt that there was nothing more to discuss, while other groups used the full one hour allocation to finish each activity. In order to compare the amount of negotiation of each group in each activity, the amounts of negotiation in each activity (see Chapter 4 for more explanation) were changed into a ratio for comparison, and this may have hidden important factors that were relevant to the effect that time had on each activity.

Chapter II

Literature Review

The purpose of this chapter is to introduce Second Language Acquisition (SLA) and Computer-Mediated Communication (CMC), Computer Assisted Language Learning (CALL) in particular. Exploration of these two topics will contribute to the central research questions of this study that examine group discourses and interactions within the different communication modes from a second language perspective as well as an understanding regarding the way in which communication modes affect L2 discourses and interactions.

2.1 Second Language Acquisition (SLA)

SLA research has grown in a comparatively short period of time, from an initially modest and exclusive concern with pedagogical issues that were elicited by comparing linguistic systems or by identifying errors, into a theoretically motivated, arguably independent field in its own right (Gass, 1993). Although some researchers argue that SLA theory's true history needs to be re-conceptualized, it is generally agreed it originated within the last 30 to 40 years (Thomas, 1998). Gass, Fleck, Leder, and Svetics (1998) argued, "It is only in the 50s, 60s, and 70s that they begin to see a flurry of intellectual activity that converges on a coherent body of scholarly work - a body of work that begins to ask the important how and why questions of second language learning to which accepted methods of analysis are applied" (p.412).

Given this information, what then is the study of second language acquisition? Unfortunately, the answers that SLA theorists provide are too diverse to provide a universal definition. For example, Gregg's (1996) notion of SLA has a narrow definition. He stated, "The domain of a L2 acquisition theory is not the behavior of speakers (linguistic performance), but rather the mental system (competence) underlying that behavior" (1996, p. 53). While Gregg's statements are limiting, some SLA theorists believe that L2 acquisition should incorporate everything that has to do with learning and teaching second or foreign languages (Thomas, 1998).

The reason for the confusion surrounding the definition of SLA is that SLA researchers have borrowed ideas from many different sources, such as linguistics, psychology, psycholinguistics, sociology, sociolinguistics, discourse analysis, conversational analysis, and education (Markee, 2000). Consequently, SLA studies are being understood as an interdisciplinary field that seeks to explain a broad range of factors regarding the acquisition of second languages. Gass and Selinker (2001) stated:

> Given the closer relationship between second language acquisition and other areas of inquiry, there are numerous approaches from which to examine second language data, each one of which brings to the study of second language acquisition its own goals, its own data-collection methods, and its own analytic tools. Thus, second language acquisition is truly an interdisciplinary field (p.2).

SLA researchers often complain that there is a lack of integration in SLA research, because many different fields are subsumed under the name of second language acquisition. Flynn and O'Neil (1988) point out that there is no fully agreed upon set of questions and no critical agreement about the necessary database and methodologies in SLA research because of its interdisciplinary nature. Some SLA researchers believed that a multiplicity of perspectives is healthy, because they can look at the data from multiple perspectives. They believed that second language acquisition research has important contributions to make in understanding the nature of language (Gass & Ard, 1980; Rutherford, 1986; Broselow, 1988; Mairs, 1989). Others think that a multiplicity of perspectives can be dangerous, because each perspective brings with it different assumptions (Gregg, 1989). Felix (1986) argues that without the necessary degree of theoretical and conceptual explicitness, there will be little hope for second language acquisition research to construct an adequate theory (p.10). In this situation, Gass (1989) argues that it is crucial that there be an explicit description of how the various perspectives fit vis-à-vis the other perspectives. Various approaches can be complementary rather than simply being right or wrong. Since the range of SLA research is too broad to explain all the approaches, I am only going to discuss the six main SLA theories that have contributed to the development of communicative language teaching, which are particularly relevant to my research. My theme includes the following: universal grammar, discourse hypothesis, social interaction hypothesis, social interactionist theory, sociocultural theory, and task-based interaction. These topics are discussed respectively in the following sections.

2.1.1 Universal Grammar

A highly influential nativist viewpoint in SLA grew out of Chomsky's (1975, 1997) work, starting with the publication of his book in 1957, *Syntactic Structures* and his critique of B. F. Skinner. Chomsky rejected the behaviorist perspective and instead adopted a mentalist viewpoint that was closely related to the basic principles of cognitive psychology (Chastain 1976). Nativist theorists, including Eric Lennenberg (1967) and David McNeil (1966), believed that language was a species-specific, genetically determined capacity and that language learning was therefore governed by biological mechanisms (Hadley, 1993).

Universal Grammar (UG) was one of the main nativist approaches, and it was motivated by the need to explain the uniformly successful and speedy acquisition of language by children in spite of insufficient input. The theorists in UG believed that principles formed part of the mental representation of language and that properties of the human mind made language universals the way they are (Chomsky 1965). Chomsky (1997) defined UG as the theory of languages and the expressions they generate (p.167). To Chomsky, language was seen as an autonomous system of abstract knowledge about the rules of grammar that govern all possible languages. These rules consist of so-called universal principles and variable parameters that constrain core grammar. While the abstract principles that characterize core grammars of all natural languages are invariable, the parameters vary across languages.

From a first language acquisition perspective, Chomsky's (1997) claims were very powerful because they provided a possible explanation for the relative ease and speed with which L1 acquisition occurs in all normal children. More specifically, Chomsky (1997) argued that all normal human beings are pre-wired at birth with an abstract knowledge of what language is, and that the bulk of the work of language acquisition is automatically done for the child by a so-called language acquisition device (LAD). An important function of the LAD is to specify the child's innate knowledge of the universal constraints on the possible grammar for his or her native language.

However, from this perspective, linguistic experiences are comparatively unimportant. All that is needed are a few samples of the first language, which then act as a catalyst for subsequent internal processing by the LAD. Since UG specifies the limits of a possible language, the task for learning is greatly reduced if one is equipped with an innate mechanism that constrains possible grammar formation.

2.1.2 The Discourse Hypothesis

The discourse hypothesis initially emerges when Hatch (1978) made an attempt to link the learning of forms and functions and to describe the strategies that second language learners use to differentiate between various functions of the same linguistic form. Hatch claimed that form couldn't be studied apart from function. She stated that it is meaningless to talk about the acquisition of any morpheme until the child also acquires the function of that morpheme.

Hatch (1978) postulated that the order of acquisition is really a reflection of conversation growth. Therefore, looking at a child's language learning as an automatic process is not a plausible argument. The premise is that language learning evolves out of learning how to carry on conversation. The child learns some basic set of syntactic structures, moves from a one-word phase to a two-word phase, moves to more complex structures, and eventually the child is able to put these structures together and carries on conversations with others. Under this assumption, Hatch (1978) believed that second language learners would go through a process similar to that of the child. In other words, second language learners would learn how to engage in conversation and how to interact verbally. From these experiences, an interaction syntactic structure would be developed. Indeed, her concern was not about how second language structure learning leads to the learner's communicative use of second language, but about examining how the learning of second language evolves out of communicative use (Cited in Pica, 1994).

Furthermore, Hatch (1978) suggested that input is an extremely important factor in determining the sequence in which various syntactic forms and functions are acquired. In order to understand the importance of input, the researcher must transcribe and examine not simply the child's production of speech but also the speech of those with whom he or she talks. However, the research of 1970s in second language acquisition mostly focuses on the investigation of form of syntactic structures used by the learner. Because of Hatch's (1978) earlier research, she argued that a new methodology was necessary for a new insight into how second language learners learn a new language. She suggested that one possibility for a new methodology was discourse analysis and, in particular, conversational analysis. She noted that a researcher needs to look at input and frequency; the important process is to look at the corpus as a whole and examine the interactions that take place within conversations to see how interactions themselves determine the frequency of forms and show how language functions evolve.

2.1.3 The Social Interaction Hypothesis

Hatch's ideas on the role of input in SLA initially influenced the subsequent work of Krashen, Long, and other researchers (Marchee, 2000). Krashen (1980) suggested that more language is acquired through exposure to comprehensible input, and she defined comprehensible input as the bit of language that is heard or read and that is a little beyond a learner's current level of grammatical knowledge. She continued, noting that the language a learner previously knows essentially serves no purposes in acquisition of new language. Similarly, language that is beyond a learner's current knowledge is not useful. A learner does not have the ability to do anything with such knowledge. Essentially, the information becomes meaningless. Based on this assumption, Krashen (1985) defined a learner's current state of knowledge as i and the next stage as i + 1. Thus the input a learner is exposed to must be at the i + 1 level in order to be acquired. A learner moves from i, one's current level, to i +1, the next level along the natural order, by understanding input containing i + 1 (Krashen, 1985).

According to this hypothesis, language learners attempt to know meaning first, and consequently acquire structure as well. Krashen maintained that i + 1 is made comprehensible through the use of context, knowledge of the world, and other extralinguistic cues. For this reason, he claimed that speaking fluency cannot be taught directly, but rather it emerges naturally over time. Early speech is not grammatically accurate, but accuracy will develop over time as the acquirer hears and understands more input.

However, Krashen's (1980) input theory was soon challenged. Long (1983, 1996) argued that although exposure to comprehensible input is certainly necessary, it is not by itself sufficient to ensure acquisition. Simply hearing and understanding the new items does not necessarily help learners to use the language. Long argued that learners should not simply be passive recipients of i + 1 but must actively receive the raw linguistic data they need from native speakers by engaging their interlocutors in social interaction, if they wish to acquire new language.

Extending this hypothesis, Swain (1985) also proposed a new hypothesis in opposition to Krashen's input theory, in which students are encouraged to produce comprehensible output. She questioned whether comprehensible input is the only causal variable in second language acquisition in Krashen's theory, and concluded that input is not enough to promote grammatical development in a second language. She argued that one-to-one conversational exchanges certainly provided an excellent opportunity for acquisition to occur, but that the most effective exchanges are those in which there has been a communication breakdown; that is, in a situation where the learner received some negative input, subsequently pushing one to use alternate means to relay a message. Swain noted that one can succeed in communicating a message using deviant grammatical forms and sociolinguistically inappropriate language. However, she held that the notion of being pushed toward the delivery of a message that is not only conveyed but one that is conveyed precisely, coherently, and appropriately, so as to be incorporated in order to understand the process of second language acquisition. She saw this idea of being pushed in one's output as parallel to Krashen's i + 1 description of comprehensible input, and thus called her idea the comprehensible output hypothesis.

In support of Long's and Swain's arguments, many researchers agree that learners must actively participate in receiving the new input they need and also in producing the language (Ellis, 1993, 1994; Gass & Selinker, 2001; Larsen-Freeman, 1991; Pica, 1991, 1994; Tarone, 1988). In order to participate actively in acquiring the new input, learners must be able to negotiate the new input, and that kind of negotiation is possible in small group work. Over the years, a fruitful line of research has evolved, much of it focused on a specific type of interaction, which has come to be known as negotiation (Pica, 1994). The term "negotiation" has been used to characterize the modification and restructuring of interaction that occurs when learners and their interlocutors anticipate, perceive, or experience difficulties in the comprehensibility of the message. As they negotiate, they work linguistically to achieve the needed comprehensibility. This could result from repeating a message verbatim, adjusting its syntax, changing its words, or modifying its form and meaning in a host of other ways.

A good deal of research has been conducted on the negotiation work in non-native speakers/non-native speakers' or native speakers/non-native speakers' conversations. The main concern of that research was to know whether two or more non-native speakers work together during group work to perform the same kind of negotiation to arrive at meaning as they would in a whole-classroom setting. Pica and Doughty's (1985) research showed that students engage in more negotiation for meaning in small groups than they do in a whole-class setting. They defined negotiation as the percentage of conversational adjustments, which include various interactional features such as clarification requests, confirmation checks, comprehension checks, self-and other-repetitions, and reformulating.

Another finding that is related to the proposed research is the amount and variety of the interlanguage talk between second language learners and non-native speakers or native speakers in small group work. Interlanguage is an intermediate system located somewhere between the learner's native language and the target language (Selinker, 1972). Pica and Doughty (1985) claimed that the amount and variety of learners' talk are found to be significantly greater in the small groups than in the teacher-led discussions.

In addition, other researchers had established that non-native speaker/non-native speaker dyads engage in as much or more negotiation work than native speaker/non-native speaker dyads, and that learners negotiate more with other learners who are at a different level of second language proficiency (Long & Porter, 1985; Porter 1983, Varonis and Gass 1983). Varonis and Gass (1983) compared interlanguage talk in 11 non-native conversational dyads with conversation in 4

NS/NNS dyads and 5 NS/NS dyads. The main finding was that there was a greater frequency of negotiation sequences in non-native dyads than in dyads involving NSS. The most negotiation occurred when the NNS were of different language backgrounds and different proficiency levels; the next highest frequency was in dyads sharing a language or proficiency level; and the lowest frequency was in dyads with the same language background and proficiency level. On the basis of these findings, Varonis and Gass (1983) argued for the value of non-native conversations as a nonthreatening context within which learners can practice language skills and negotiate input that becomes comprehensible.

2.1.4 Interactionist Perspectives in SLA

The diversity of theoretical frameworks and approaches in SLA has always brought intra-field debates and tensions, and one of the major controversies was whether or not acquisition can best be characterized by means of innateness. One view holds that learning results from internal mental activity rather than from something imposed from outside the learner (Ellis, 1990). This cognitive approach is often called constructivist or Piagetian, where emphasis is placed on the computational processes occurring in the brain. The other view maintains that language acquisition is a form of social interaction, and it is called social-constructivist or constructionist approach. These two conflicting positions in SLA have led to a debate between cognitive and situative perspectives on learning research and have also resulted in the development of different research traditions as a result of the different questions being asked (Greeno, 1997).

In this conflicting research tradition, a new trend of SLA research re-emphasizing the role of social interaction in L2 acquisition began to emerge, and this perspective was called the socio-interactionist approach. However, the socio-interactionist researchers' interpretations of the role of social interaction in L2 acquisition were very diverse, ranging from strong interactionists to weak interactionists. The weak interactionists stressed that the role of both learner variables and environmental variables are important in language development (e.g. Long, 1990). It was believed that learner variables are universal because all learners possess common cognitive abilities and constraints, while environment variables vary systematically because of the different functions, for example, of age, aptitude, and attention, or of the kind of input encountered. However, even with their recognition of social variables, their framework still assumed that social interaction played an assistant role rather than a main one, providing momentary frames within which learning processes are supposed to take place (Mondada & Doehler, 2004).

On the other hand, the strong interactionists (Hall, 1993; Lantolf, 2000; Lantolf & Appel, 1994; Lantolf & Pavlenko, 1995; Mondada & Doehler, 2004) believed that interaction represents an important part of learners' everyday lives. Since interaction is the most basic place where experience occurs, it is the most basic organized activity where learning can take place. Mondada and Doehler (2004) argued:

> Social interaction provides not just an interactional frame within which developmental processes can take place; as a social practice, it involves the learner as a co-constructor of joint activities, where linguistic and other competencies are put to work within a constant process of adjustment vis-à-vis other social agents in the emerging context. This position was typically adopted by sociocultural perspectives to L2 acquisition (p. 502).

2.1.5 Sociocultural Perspectives in SLA

After the mid 1990s, several researchers who had looked for a more defined psycholinguistic understanding of how L2 learners acquire a new language were motivated by socio-cultural theory because it offered a framework through which cognition can be investigated systematically without isolating it from social context or human agency (Brooks & Donato, 1994; Coulghl & Duff, 1994; Lantolf, 2000; Thorne, 1999). Even though socio-cultural theory, with Bakhtin's (1981) dialogical view of language and various ecological theories, appeared to be at the opposite end of the spectrum from the cognitive perspectives, it did not deny the central role of cognitive processes (Neisser 1992).

The most fundamental concept of socio-cultural theory is that the human mind is mediated by tools and labor activity. These tools (artifacts) are created, inherited, and modified by humans over time, and they allow us to change the world and the circumstances within which we live. Symbolic tools or signs, such as numbers and all languages, are used to mediate and control our relationships with others and with ourselves, and in doing so change the nature of these relationships as well. With the integration of symbolic tools, the properties of the naturally and biologically specified human brain are organized into a higher or culturally shaped mind.

Vygotsky (1978) claimed that human behavior results from the integration of socially and culturally constructed forms of mediation. Since thinking is the function of the cerebral organ, the explanation of the process is not to be found in the internal structure of the organ, but in the interaction between thinking bodies (humans) and between thinking bodies and objects (humans and socio-culturally constructed artifacts such as language) (also see Lantolf, 2000).

Therefore, from a socio-cultural perspective, thinking and speaking were considered to be tightly interrelated in a dialectic unity in which an individual's publicly derived speech completes his or her or other's privately initiated thought, creating a shared social reality among the participants. Thus, according to Lantolf (2000), "thought cannot be explained without taking account of how it is made manifest through linguistic means, and linguistic activities, in turn, cannot be understood fully without seeing them as manifestations of thought" (p.7). Brooks and Donato (1994) would argue that speaking is:

> The very instrument that simultaneously constitutes and constructs learners'

> interactions in the target language with respect to the target language itself, the task as it is presented and understood by the participants, the goals learners set for completing tasks, and their orientation to the task and to each other (p. 264).

2.1.6 Task-based Interaction

One important implication to be drawn from the study of SLA is that the degree of facility of second language learning in a classroom depends largely on how classroom discourse is constructed (Gibbons, 2002). Because many classroom activities are created through classroom discourse, the role of classroom discourse is especially significant to the creation of learning environments and essential for molding individuals' language development. Substantial research has been conducted on the activities for classroom discourse in first language classrooms (Baker, 1992; Bowers & Flinders, 1990; Cazden, 1988; Eder, 1982; Gutierrez, 1994, 1995; Smagorinsky & Fly, 1993; Wells, 1993, 1996; Hall & Verplaetse, 2000). Findings from this research show that differences in interactional activities in a classroom can contribute to students' communicative and conceptual development.

Classroom discourse is typically composed of two types of talk: (a) talk between teacher and students, and (b) talk among students in group work. For teacher-student talk, the dominant pattern is Initiation, Response, Feedback (IRF) or Initiation, Response, Evaluation (IRE) (Van Lier, 1988). In this type of talk, teachers mostly initiate the talk, the students respond, and the teacher follows up their responses by repetition, reformulation, evaluation, or other kinds of feedback. Thus, teacher-student talk of this kind provides students with little opportunity for the learner's language to be stretched, because it makes students usually focus on their linguistic utterances (Gibbons, 2002). On the other hand, the talk among students in group work, unlike IRF or IRE interactional patterns, was expected to provide learners with opportunities for more varied and dialogic interaction, and this spawned a large body of recent classroom-based research being focused on learner-learner interactions during tasks.

The increasing interest in learner-learner interaction led the word "task" to become a fundamental concept in language teaching pedagogy. For example, the definition of "task" that Willis (1990) used was "an activity which involves the use of language but in which the focus is on the outcome of the activity rather than on the language used to achieve that outcome" (p. 127). Although a number of definitions of "task" exist (see e.g. Nunan, 1989), the definitions of "task" have recently been reworked due to the influences of the studies that examine the compatibility of task based learning and socio-cultural theory. According to Brooks and Donato (1994), "A language task is cognitive activity that is internally constructed through the moment-to-moment verbal interactions of the learners during actual task performance" (p. 272).

However, Coughlan and Duff (1994) proposed to differentiate the concept of "task" from the concept of "activity." They argued that what is often conceived of as a fixed task is really quite variable, not only across subjects but within the same subject at different times (p. 174), and defined task as a behavioral blueprint that researchers employ to elicit linguistic data. An activity, on the other hand, they referred to as the behavior that is actually produced when an individual performs a task. In other words, activity is the process and the outcome of a task from the socio-cultural perspective. Roebuck (2000) also had a similar explanation of the differentiation of the two definitions by maintaining that "the task represents what the researcher would like the learner to do, and activity is what the learner actually does. Thus, activity is how learners - as agents - construct the task (p. 84).

With contemporary development of the concepts of task and task-based interaction, the research on task types beneficial to language development became one of the important issues in SLA. Some of the characteristics of tasks that were used to categorize task types were: (a) whether a one-way or two-way exchange of information was involved, (b) the task is convergent or divergent, (c) the task is closed or open, and (d) the task is planned or unplanned. Some types of tasks have been found to encourage learners to spend more time and produce more complex language than other types, and task types are not equally effective at generating acquisitionally useful varieties of talk.

For example, free conversation is one of the task types that have created controversy in the research literature. At first, free conversation was identified to be a notoriously unreliable tool for encouraging learners to negotiate their interlocutors' speech (Long, 1983, 1989). Long asserted that conversation allows learners to avoid topics that cause communication difficulties and change to new ones instead of engaging in negotiation. However, his assertion was contradicted by research results that reported free conversation as superior to the information gap task (Nakahama, Tyler, & Lier, 2001). Researchers favorable to free conversation activity claimed that conversational activities demand that learners pay close attention to and relate their utterances to the context of the other interlocutors' utterances and of the topics discussed. The different results seemed to be produced due to the different focus of research – the focus of the former was on the negotiation of meaning and the latter was on factors such as the turn length and the utterance complexity. These contradictory results require conversation to be studied in much more detail as a potential source of learning opportunities (Nakahama, Tyler, & Lier, 2000)

To explain the characteristics of each task in detail, one-way tasks involve only one individual possessing information that is necessary to the solution of a problem. In contrast, two-way tasks are organized in such a way that all participants possess information that is necessary for the solution of the problem. The crucial difference between these two kinds of tasks is that two-way tasks force all participants to contribute and thus to engage in conversational modifications of each other's talk. In contrast, one-way tasks only assume the possibility that all participants will contribute to the talk and modify their conversational exchanges (Doughty & Pica, 1986; Long, 1989). Doughty and Pica (1986) found that two-way tasks generated significantly more negotiation work than one-way tasks in a small group setting. Their research shows that two-way tasks significantly increase the amount of talk, the amount of negotiation work, and the level of input comprehended by students.

A different categorization of tasks includes convergent and divergent tasks. Convergent tasks involve learners reaching consensus on a mutually acceptable solution to a problem, while divergent tasks involve learners developing their own individual viewpoints on a problem that they must defend against other learners' positions. Convergent tasks have been found to generate more conversationally modified talk than divergent tasks (Duff, 1986). Long (1989) has also suggested that closed tasks (i.e., tasks that require learners to arrive at a single correct solution or restricted set of solutions) produce a greater quantity and variety of negotiation than open tasks (i.e. tasks that have no single predetermined solution).

Finally, the amount of planning that learners do before they perform a task seems to be related to the syntactic complexity of the language that students ultimately produce (Crookes, 1989). In a pedagogical context, this suggests that it is desirable for teachers to insist that not all learners produce language spontaneously at all times. Rather, teachers should provide learners with opportunities to work out what they are going to say and how they are going to say it (Markee, 2000).

Task-based interaction obviously has considerable appeal in terms of training learners to use the L2 for practical purposes and to perform specific "real-world" tasks. Tasks could also form part of a general teaching of English approach, if one is able to identify target tasks that one would like the learners to be able to perform in the world outside the classroom (Seedhouse, 1999, p. 155; Nunan, 1989).

However, task-based interaction has some drawbacks as a classroom activity. Skehan (1996) discussed a possible drawback of task-based interaction caused by the characteristic of the task-based interaction, putting more emphasis on meaning than on form. When L2 learners need to recover their intended meaning in a task-based interaction, they use various communication strategies to make up for their incomprehension. The concern is that reliance on comprehension and communication strategies may be over-effective so that solutions to communication problems become proceduralized and re-used on other occasions, constraining the different varieties of interaction. As a result, unintentional constraint may emerge and the quality of learners' language during task work becomes less than what the learners are actually capable of producing (Higgs and Clifford, 1982; Seedhouse, 1999; Skehan, 1992). In addition, L2 learners also tend to depend on only a partial use of form as a clue to meaning in order to exchange their meanings clearly when they need to communicate their meanings under pressure (Anderson and Lynch, 1987). Anderson and Lynch argued that this explains why the interlocutors' communications predominantly focus on indexical or single-word interactions.

According to Widdowson (1989), language users have available dual modes of processing. When accessibility and time pressure are high, a lexical mode of communication which depends on a capacious, well-organized, and very rapid memory system appears. On the contrary, when exactness or creativity is required, a concern for form becomes predominant (Sinclair, 1991). Therefore, the language user can switch between the two modes to take account of whatever processing demands are most required. Since processing language to pull out meaning does not warrant simultaneous sensitivity to form, contriving methods to focus on form without losing the values of tasks as realistic communicative motivators is needed in order to make task-based interaction a feasible practice for instruction (Skehan, 1996).

2.2 Computer-mediated Communication (CMC)

Computer-mediated communication (CMC) is a relatively new area of study that began to be used in academia and the business world in the 1950s. However, the potential effects of CMC on society had been predicted by some social scientists even before the advent of the personal computer. As early as 1978, for example, Hiltz and Turoff (1978) asserted that computerized conferencing would eventually have striking psychological and sociological impacts on the communication objects and processes of the participants.

Since CMC has become an integral part of society, the field has grown significantly in the areas of education, industry, and government. Because of its rapid and continuing development, CMC has become a generic term commonly used for a variety of systems that enable people to communicate with other people by means of computers and networks (Romiszowski & Mason, 1996). There are various working definitions of computer-mediated communication. For example, Gerry Santoro (1995) offered the following definition:

> At its broadest, CMC can encompass virtually all computer uses including such diverse applications as statistical analysis programs, remote-sensing systems, and financial modeling programs, all fit within the concept of human communication (p. 11).

A slightly more classic definition is provided by Susan Herring (1996):

> CMC is communication that takes place between human beings via the instrumentality of computers. (p. 1).

And Romiszowsk and Mason (1996) state:

> communication between different parties separated in space and /or time, mediated by interconnected computers (p. 439).

CMC has brought distinctly different characteristics to the communication process that the majority of previously available communication media had not. The first characteristic is the capability of supporting complex processes of interaction among participants. CMC combines features of oral language with written language, and this basically extends the scope of interaction and feedback to an unlimited extent. In CMC, participants are also able to express not only the bare content but also their personal viewpoints and, to a limited extent, even the emotional overtones that may be present within their messages. The potential for interaction in a CMC system is both flexible and potentially rich as a new form of communication.

Another characteristic of CMC is that it is essentially multi-way communication. Unlike face-to-face interaction, where only one person can take a turn at a time, CMC removes the turn constraints and enables all participants to express their opinions equally. Face-to-face interaction very often tends to be relatively unbalanced, with one or two participants dominating the floor or controlling the topics, but CMC can present more balanced participation with all participants being involved more equally (Warshauer, 1996). For example, McGuire, Kiesler, and Siegel (1987) found that women made the first topic proposal as often as men in electronic discussion, compared to only one-fifth as often in face-to-face discussion. Huff and King (1988) also found that topics proposed by low-status group members (undergraduates compared to graduate students) were accepted equally in electronic discussion, which was an infrequent case in face-to-face discussion. CMC may provide more benefits to peripheral members of a group than any other communication medium.

Finally, CMC provides two different communication modes. One is a synchronous communication medium like a telephone, and the second is an asynchronous communication medium like a letter-writing or fax system, depending on what is ideally required by the particular situation (Rawson, 1990). To explain more specifically, synchronous communication is the communication happening online between two or more people at the same time but not necessarily in the same place. The most frequently used form of synchronous communication is online chat. Audio and video conferencing, instant messaging, and smart boards are other examples. On the other hand, asynchronous communication is two-way communication in which there is a time delay between a message being sent and received. Email, an electronic bulletin board, or discussion list are asynchronous means of communication.

2.2.1 CMC for Teaching Composition

The use of a local area network (LAN) in native-speaker English instruction began in the mid-1980s in the English department at Gallaudet University (Washington, DC) under the supervision of Professor Trent Batson. Gallaudet University specializes in educating deaf students and in the use of computer technology for education, and Batson developed the idea of Electronic Networks for Interaction (ENFI) to provide the means by which deaf students might communicate with one another in English for improving their writing skills. The Gallaudet experiment was successful (Batson 1988; Day and Batson 1995). Batson found that not only the students' writing improved but also their confidence in class and their general ability to express themselves was enhanced.

With the success of using ENFI in English composition classes, the use of electronic communication for the teaching of composition became popular in other educational institutions all over the country. Composition teachers found the use of CMC beneficial in providing more writing practice (DiMatteo 1990, 1991), encouraging collaborative writing (Barker and Kemp 1990), and facilitating peer editing (Bojarsky 1990; Moran 1991).

Like the people who experienced computer conferencing in other areas, composition teachers also found computer-mediated communication to have the same kind of equalizing effects (Warschauer, 1996). CMC helped women students to participate equally in courses (Flores, 1990; Selfe, 1990), enabled anxious students to benefit most from peer critique conducted electronically (Mabrito, 1991), and guided less competent students to increase their amount of communication both with the teacher and with other students (Hartman, et al., 1991).

2.2.2 Synchronous CMC for Foreign/Second Language Learning

In the development of communication technology, the local-area network became superseded by the internet-based network approach, where each computer or electronic device possesses a unique numerical code called an Internet Protocol (IP) address. This system enabled people all around the world to be networked without installing special communication software. The Internet and the World Wide Web allowed second/foreign language learners to make instantaneous exchanges of information with individuals all over the world. Language learners could contact unknown people living in other countries though electronic list groups, bulletin boards, or emails. Language learners were highly motivated to use this medium of communication, as it was a new way of engaging in meaningful and authentic communicative interaction (Kaufman, 1998). Since then, a number of sites have been created specifically for ESL/EFL learners to exchange ideas on various topics, such as Dave's ESL Café or TESL Canada.

With the development of the web-based network, second and foreign language teachers began to show a great interest in integrating electronic communication into their language teaching (Warschauer, 1996). Although ESL/EFL teachers started to use CMC largely with the same motivation with which the first language teachers did, they also had their own unique motivations, including the desire to provide authentic communication partners (Cohen & Miyake, 1986; Paramskas, 1993), the recognition of the importance of cultural exchange (Soh & Soon, 1991), and the desire to teach new learning skills to minority language students (Cummins & Sayers, 1990).

In the meantime, the research on using CMC for second/foreign language learning was accelerated in the 1990's, right after synchronous CMC tools became widespread. The literature on foreign and second language learning began to report numerous pedagogical aspects of the synchronous CMC interaction. Among the most significant initial reports were those on the equalizing effect of participation (Beauvois, 1992; Kelm, 1992; Kern, 1995; Warschauer, 1996; Sullivan & Pratt, 1996; Chun, 1994). Electronic discussion not only served to stimulate the equal participation of shy and low-motivated language learners (Beauvois, 1992; Kelm, 1992) but also to decrease teacher-centered discourse, making teacher discourse less authoritative and less dominant (Kern, 1995; Warschauer, 1996; Sullivan & Pratt, 1996).

Synchronous CMC was also reported to increase the amount of participation as well as language productivity. Kern (1995) found that students had from two to three-and-a-half times more turns and produced two to four times more sentences and more words in the CMC discussion than in the oral discussion. A CMC context is also less threatening to students than a face-to-face classroom context, and students are more willing to take risks and try out new hypotheses in CMC environments (Kern, 1995; Warschauer, 1996; Smith, 2004).

On the quality of linguistic production in synchronous CMC interaction, very little is known. This is partly because of the paucity of research that is available and partly because of the lack of theoretically motivated approaches that guide the existing language analyses (Ortegar, 1997). The discourse in synchronous CMC vaguely suggests that CMC is a unique form of communication that has some similar characteristics not only with oral language, such as the use of first person or the flow of real conversation, but also with writing, such as lexical density (Kelm, 1992: Smith, 2004; Yates, 1996).

Kern (1995) investigated the average turn lengths within both the electronic and non-electronic modes. He explained that the average turn length was similar in both the electronic and non-electronic condition, although simpler, shorter messages tended to elicit more response than complex, longer ones in the electronic mode. However, the syntactic complexity and interactional features produced somewhat contradictory results. While Warschauer's (1996) research reported that electronic discussion resulted in fewer interactional features, higher syntactic complexity, and higher lexical range, Chun (1994) claimed that students exhibited a higher proportion of simple sentences in electronic discussion. Obviously, overall characterizations and comparisons seem to be complicated by the intervening factor of individual styles of discussion within the electronic mode (Chun, 1994).

2.2.3 Negotiation of Meaning in CMC

Since the 1990s, there has been a distinct scholarly effort in Computer Assisted Language Learning (CALL) literature to find effective research paradigms that may productively explain the effects of the media on second language learning. The impetus for this effort was the recognition that CALL research had not built its own legitimate and coherent foundational foothold (Harrington & Levy, 2001). The heterogeneous nature of the research questions (Chapelle, 1997; Levy, 2000), the tendency not to build on previous findings (Levy, 1997), and a lack of recognition of CALL as a legitimate field of scholarship in its own right (Pusack & Otto, 1997) are the main rationale that prompted researchers to give recognition to building the theoretical foundations of CALL (e.g. Crookall et al., 1992; Chapelle, 1997).

CALL researchers derived the pedagogical insights from diverse sources, such as (a) second language acquisition (Doughty, 1991; Chapelle, 1997, 1999), (b) conversation analysis (Negretti, 1999), (c) sociocultural theory (Debski, 1997; Hoven, 1999; Warschauer, 1997), (d) critical ethnography (Warschauer, 1998), and (e) CMC (Harrington & Levy, 2001; Paramskas, 1999). Among these various perspectives, SLA was one of the approaches that attracted many CALL researchers' interest in the early 2000s. Those researchers believed that the CALL literature would be able to benefit from addressing questions similar to those posed about other L2 learning and from applying the methods used to study L2 learning in other types of classroom activities (Chapelle, 1997). In particular, the negotiation of meaning in SLA was an intriguing concept to many CALL researchers who believed that it could address the pedagogical merits of second language teaching using the new computer medium.

Over the last 20 years, in the SLA literature, there has been a continued investigation of learner interaction with teachers and other learners, and "negotiation of meaning" has been emphasized as a crucial feature for understanding the interactions between NS and NNS or among NNS. Two influential hypotheses have made particular contributions to the concept of "negotiation of meaning" in SLA: (a) the interaction hypothesis (e.g. Long, 1981, 1991, 1996; Pica, 1991, 1994; Doughty & Pica, 1986) and (b) the output hypothesis (e.g. Swain, 1995; Swain & Lapkin, 1994; Nobuyoshi & Ellis, 1993). These theories have also had a pronounced effect on the development of CALL research after 2000.

One of the major issues discussed among CALL researchers is the types of discourse functions that L2 learners use while they are engaged in the negotiation of meaning within the CALL context (e.g. Sotillo, 2000; Kitade, 2000; Toyoda, 2002; Blake & Zyzik, 2003; Pellettieri, 2000; Smith, 2003). For example, Sotillo (2000) investigated the number and the type of electronic discourse functions present in the synchronous discussion data for teachers and students. She found that the interactional modifications (e.g., clarification requests, confirmation checks, comprehension checks), which had been known to facilitate input comprehension in SLA , were also present in both the teachers' and students' discourses in synchronous CMC environments.

There were also some studies on the negotiation sequence in synchronous CMC settings (e.g. Toyoda, 2002; Pellettieri, 1999; Smith, 2003, 2004). However, in order to understand the negotiation sequence, the Varonis and Gass (1985) model (see

Figure 1), which details the sequence of negotiation of meaning (trigger, indicator, response, and reaction to the response), needs to be explained first.

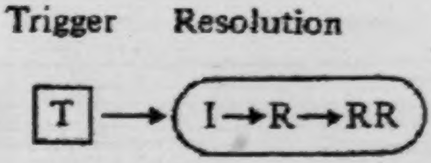


Figure 1. Proposed Model for Non-understandings (Varonis & Gass, 1985, p. 74)

According to Varonis and Gass (1985), the discourse in most conversations progresses in a linear sequence and the discourse sequences mostly serve two functions: (a) continuation of the conversation, and (b) negotiation of non-understandings. When the interlocutors share a common background and language, the turn taking sequence tends to proceed smoothly and this corresponds to the former function. However, when there is a different background or some acknowledged "incompetence" among the interlocutors, the conversational flow is interrupted, because interlocutors are likely to attempt to clarify the confusing aspects of the discourse by questioning or requesting conversational help. When the discourse is interrupted for the clarification, it functions to follow the negotiation sequence and this corresponds to the latter function (b). In short, the Varonis and Gass (1985) model for negotiated interaction describes the latter discourse function (2), which serves only for the negotiation of non-understanding.

A *trigger* is the first part of the negotiation sequence, and it is the speaker's utterance that results in some indication of non-understanding on the part of the receiver (Varonis & Gass, 1985). In other words, the trigger is the part that causes difficulties of understanding among interlocutors and leads them to engage in negotiation of meaning. Triggers could be questions, answers to a question, or descriptive sentences. A trigger is recognized only in retrospect, when the listeners choose to react to it as a problem while engaging in a conversation with the speaker. Trigger items can be categorized as lexical triggers (e.g. vocabulary), syntactic triggers (e.g. grammar), discourse triggers (e.g. discourse coherence), and content triggers (e.g. task).

There has been some research on triggers in synchronous CMC interaction, and research consistently shows that most triggers in conversation are lexical items (Toyoda, 2002; Pellettieri, 1999; Smith, 2003, 2004). Toyoda (2002) examined the triggers that took place between students and native speakers of Japanese and categorized them into three levels: word, sentence, and discourse. The results showed that triggers at the word level are the most abundant. Pellettieri (1999) and Smith (2004) also came to a similar conclusion in which the majority of negotiations among interlocutors in synchronous CMC were triggered by lexical items rather than by morphosyntax. In addition, previously unknown lexical items that were negotiated were retained significantly better than the other items that were not negotiated during the course of task completion (Smith, 2004).

An *Indicator*, the second stage in the negotiation sequence, is the receiver's signal that an utterance was not understandable or was unacceptable to the hearer. The indicators can be explicit or implicit, and they can take the form of confirmation checks or clarification requests that repeat the problematic part of the trigger sentence (Varonis & Gass, 1985; Smith, 2003). Rost and Ross (1991) categorized indicators as global, local, and inferential. Global strategies are employed by the respondent when he or she does not exactly identify the problem from the trigger sentence. "What?" or "I don't understand" are good examples of global strategies. On the other hand, local strategies are used when the respondent knows the problem part and indicates its precise location from the trigger sentence. Inferential strategies occur when a respondent tests out hypotheses and, in doing so, he or she indicates his or her non-understanding (Smith, 2003).

The third stage of the negotiation sequence is *Response*. A *Response* is the respondent's utterance to an indicator of non-understanding. According to Varonis and Gass (1985), there are several types of responses including repetition, expansion, rephrasing, acknowledgement, and reduction. However, Smith (1993) added some levels of competence to Varonis and Gass' categories, rather than simply assign the category of response. Smith's categories specify the levels of responses, ranging from a minimal response (e.g. "Yes," "No."), to a higher competence level, such as repeating the trigger with lexical modification and then finally to the last level, such as rephrasing and elaborating the nature of the problematic item (Smith, 2003).

A *Reaction to the response* is the phrase that indicates that interlocutors are ready to go back to the main flow of the conversation. Reaction to the response is an optional component in a negotiation sequence of face-to-face (FTF) interaction, because it does not necessarily appear at the end of a negotiation sequence. This phrase is usually represented by an explicit statement of understanding such as "OK," "Good" or "I understand."

According to Smith (2003), the negotiation sequence of CMC has somewhat different details from the negotiation sequence of FTF interaction. In CMC, findings at his research report that 82% of all negotiation discourses had a complete negotiation sequence ending in a reaction to the response. Pellettieri (2000) had a similar result in which only 7% of all negotiation sequences did not include some form of "reaction to the response" that indicate going back to the main line of conversation. Those percentages on complete negotiation sequences are somewhat strikingly high rates, compared to the rate found in the negotiation sequence of FTF interaction. Foster (1998) proved that less than 23% of all negotiation sequences in FTF interaction made a complete sequence and Pica et al.'s (1989) study also showed that 35% of all negotiation sequence in FTF made a complete negotiation sequence. Smith proposed that such a high rate of complete negotiation sequences indicates that it may be much more important in the CMC environment than in the FTF environment to use those signals, because they are one of the very few means that learners can use to inform their partners about their understanding and acknowledgement.

Smith (2003) also confirmed that learners were involved in negotiated interaction about one-third of the time in task-based CMC, and this result supported the finding of Pellettieri (1999). Pellettieri demonstrated that negotiated interaction occupied 34% of the total turns of all dyads engaging in task-based CMC. On the basis of these results, Smith deduced that a full two-thirds of the participants' discourse is focused on collaborative progression toward task completion. Even though he concluded that these results may relieve the concern about tasks that promote too much negotiation, his discussion suggested that some consideration should be given to the process of collaborative progression, which takes a much greater amount of CMC interaction than the process of negotiation of meaning.

2.2.4 The Controversial Issues of "Negotiation of Meaning" in CALL Research

For all the "popularity" of the research regarding "negotiation of meaning" in CALL over the past few years, the applicability of SLA theories, more specifically, the interaction theories (including social interaction hypothesis and the weak social interactionist theory), stressing the process of negotiation of meaning for L2 language development into CALL, is beginning to be questioned by a few CALL researchers (Harrington & Levy, 2001; Warschauer, 1997). Harrington and Levy (2001) claimed that the interaction theories alone as a research framework cannot capture the nature of computer-mediated language learning and use, because it would "downplay crucial differences in the modes of communication that are an integral part of CALL" (p. 17) and thus reduce their different influences on language learning.

Furthermore, Harrington and Levy (2001) explained that the inapplicability of the interaction theories to CALL is due to three important differences between CMC and FTF interactions. The first difference is that the two communication modes have a different nature on the time demand for processing. L2 learners in FTF interaction must attend to all the processing demands (including interaction and task demands) at the same time, whereas processing demands in CALL vary greatly by modes (e.g. asynchronous, and synchronous mode) and thus, even in synchronous communication mode, L2 learners are afforded more processing time while reading and typing messages.

The second difference rests on the rich contextual cues of FTF interaction, such as facial expression, body language, and gesture, and thus the range of social-affective means of FTF interaction is wider in FTF interaction than CMC interaction. For example, there is always a higher degree of face-threatening effect in FTF interaction due to the various implicit socio-affective cues (Foster & Ohta, 2005), while people tended to use emoticons, which are symbols used to convey emotional content in the CMC mode where the available contextual cues are insufficient. In addition, the prevalence of hostile language known as "flaming" is another different characteristic of CMC mode (Warschauer, 1997). Indeed, there are dramatic changes in identity that can occur when interacting via the virtual world, whereby individuals can play out different roles quite separate from their real world personae (Turkel, 1995).

The third reason, most importantly, is the context-free nature of the interaction theories of SLA. The interaction theories focus on the L2 learner's process of negotiation for meaning, which were developed to provide learners rich opportunities to adjust their language and thus render the input comprehensible regardless of the other contextual factors affecting the interaction. Similar to Harrington and Levy's (2001) concern, the sociocultural aspects stressing the role of individual interests and motivation have been de-emphasized in the interaction theories. However, in SLA, there has been a gradually increasing call for criti[illegible] reflection on the interaction theories over the last ten years (e.g., Firth & Wagner, 1997; van Lier, 2000; Nunan, 1992; Foster & Ohta, 2005; Liddicoat, 1997; Brooks & Donato, 1994). One of the main criticisms of the interaction theories is that it treats student discourse as the result of encoding, decoding, and modifying internal representations of the new language and, as a result, it "portrays the receivers' task as one of simple extraction, thereby trivializing the function of the reader or listener" (Brooks & Donato, 1994, p. 262). Brooks and Donato (1994) explained why the encoding-decoding perspective is logically incoherent in the following comment:

> The encoding-decoding perspective fails to capture how utterances interact with social realities, evoking transformations for the social situation as well as constituting them. At best, encoding and decoding reflect only the most ordinary and instrumental aspects of language use, i.e., message transmission and reception (p. 262).

Nunan (1992) summarized previous second language studies and pointed out how the language produced by learners is both reduced to and reproduced as a set of figures and numbers that are manipulated in various ways. He argued that such studies ignore the essential issues for second language learning, such as language itself and the activity of the learners. He questioned the usefulness of such studies by saying, "such studies are narrowly conceived and executed,...are over represented in the literature,...have unduly influenced the second language research agenda,...and have given us an incomplete picture of second language acquisition" (p. 15; see also Brooks & Donato, 1994).

Van Lier (2000) also criticized the input and output perspective where the learner can learn best from the interaction with a native speaker (NS) or a more competent interlocutor, as a result of transfer of information from a NS who knows more. In other words, according to the input and output perspective, the effectiveness of a learner's interaction should be compared with an equivalent interaction with NS or a more competent interlocutor, because the interaction among the learners is treated as defective and the interaction with NS is treated as the yardstick of what has been shown to be effective. Van Lier (2000) argued that this simplistic assumption leaves open and unaddressed the possibility that other meaning making and language-learning process that is different from the interaction with NS may occur in learner-learner interaction:

> Occam's razor states that simpler explanations are to be preferred over more complex ones, so long as they account for the data. But the razor is in fact a double-edged sword, since in practice there may be a 'conspiracy' effect between the explanation and the data. The 'simplest explanation that accounts

> for the data' is applied to data that have been extracted from complex processes because of prior assumptions regarding their (the data's) significance. Thus the data encourage the 'simplest explanation' and the 'prior assumptions' to become identical. As a result research runs the danger of becoming locked into a reductionism from which it may be hard to break away. The simplest explanation in this case would be to expect evidence of learning in learners' utterances…as a result of, negotiation cycles (p. 248).

The interaction theories were also criticized for their prevalent study of "problems" and "difficulties." People often do succeed in communicating in a foreign language even with quite limited communicative resources, but, nevertheless, successful communication appeared to have been disregarded in SLA research possibly due to its lower saliency (Firth & Wagner, 1997). Actually, the conversation data of recent studies on L2 interaction showed that L2 learners do considerable linguistic work without an instance of communication breakdown, and even an unstructured conversation can offer substantial learning opportunities at multiple levels of interaction (Nakahama, Tyler, & van Lier, 2001). A study of communicative successes, in addition to studies of perceived failure and problems, may provide new and productive insights into SLA (Firth & Wagner, 1997).

Foster (1998) suggested that learners often avoid the problems initiated by communication breakdown, rather than engage in further negotiation. With respect to learners' avoidance of further negotiation, he explained that learners may simply not be predisposed to negotiate for meaning when they confront moments of incomprehension or that learners may purposely avoid interrupting to request clarification or repetition of things that are not clear because of the fear of loss of face (Foster & Ohta, 2005). Some learners may feel a degree of risk of threat to their self-esteem by requesting clarification or repetition in their interactions with others.

Allwright (1989, 1996) argued that the effect of face-threatening may address the issue of conflicting pressures between the social and the pedagogical in the classroom. The social pressure pushes the interaction towards an event that is socially acceptable to everyone in the classroom so that any face-threatening act is likely to be avoided. On the other hand, the pedagogic pressure pushes the interaction towards an event that is pedagogically acceptable so that it is likely to become face-threatening and cognitively demanding, because it will disclose the limits of the knowledge of the participants. This dilemma causes a constant ambiguity in the interaction because of different understandings or interpretations of the functions of certain utterances.

Another concern that was raised regarding the nature of negotiation of meaning is that communication breakdowns are more likely to occur with problems of lexis rather than morphosyntax (Foster & Ohta, 2005; Sato, 1986; Foster, 1998; Pica, 1992; Pica et al. 1993). Nakahama, Tyler, and van Lier's study (2001) showed that the interlocutors focused on discrete items, such as single words in information gap interaction, and the meaning was negotiated on the basis of discrete items in order to achieve local cohesion. Considering the pedagogical purpose of providing L2 learners with opportunities to use a variety of language functions and strategies, understanding L2 interaction exclusively in terms of negotiation of meaning is an overly narrow view of CALL and the second language learning processes that take place within it.

In CALL research, however, there has been limited critical self-introspection on "negotiation of meaning," and most research still focuses on the examination of the L2 learners' process of negotiation that occurs in the CMC environment. Smith's (2003) study shows an example where a generalization may unpredictably elicit a different result. According to the previous CALL research results, as in FTF interaction, jigsaw tasks in CMC contexts facilitated more negotiation than any other task types such as information gap, problem-solving, decision-making, and opinion exchange tasks (Blake, 2000; Pica et al., 1993; Robinson, 2001). However, unexpectedly, Smith's study demonstrated that the learners negotiated a significantly higher percentage of turns when they were engaged in the decision-making tasks than when they worked on the jigsaw tasks.

Smith (2003) offered an explanation of his contradictory results. He reported that the nature of the negotiation of each task might be influenced by the way in which lexical items were provided in the tasks. In other words, lexical items that were seeded into the task may be or may not be salient according to the nature of the task:

> Though the jigsaw task required an information exchange for completion, it seems that the degree of target item saliency elicited by the decision-making tasks may supersede this task parameter of interaction requirement when it comes to generating negotiated interaction around specific target lexical items. (p. 45)

As Smith's (2003) study demonstrated, it is not only the types of tasks that shape how learners interact while undertaking them. Simplistic generalizations about an interactive phenomenon may blind us from looking at many other significant factors affecting CMC interaction.

In summary, interaction is not a static exchange of information but a dynamic process, which is much more fluid and dependent on the social context, moving constantly from place to place, from person to person, and from moment to moment. When a learner interacts with others in a conversation, he or she uses words, backchannels, gestures, as well as expressions for emotional states to indicate appreciation, understanding, or the need for more elaboration. This indicates that the totality of meaning-making in the conversation is not merely linguistic; it is semiotic, and language emerges out of the semiotic activity (van Lier, 2000). The context is not for providing input to a passive recipient, but a "semiotic budget" (van Lier, 2000, p.252) within which the active learner engages in meaning-making activities together with others, who may be more, equally, or less competent in linguistic terms. In this sense, the quality of interaction should be interpreted in terms of the ongoing contributions of individuals and the implicit and explicit relationships among all the contextual factors rather than the amount of negotiation for meaning. "The semiotic budget does not refer to the amount of 'input' available, nor the amount of input that is enhanced for comprehension, but to the opportunities for meaningful action that the situation affords" (van Lier, 2000, p. 252).

2.2.5 A Possible Direction for CALL Interaction Research

In the field of SLA, a growing number of studies that were influenced by socio-cultural perspectives began to examine the dynamics of L2 groups' interactions instead of negotiation of meaning (e.g. de Guerrero & Villamil, 1994; Donato, 1988; Lockhart & Ng., 1995; Saunders, 1989; Storch, 2002; Villamil & de Guerrero, 2006). These studies were more interested in what an individual in a small group, who has a different motivation, orientation, and goal, actually does to construct his or her relationship with others, and how his or her relationship with others is related to his or her language learning rather than the linear supposition that rich opportunities of negotiation would give benefits to all participants in a group in the same way. The researchers who were influenced by sociocultural perspectives believed that the investigation of the pattern of group behavior may provide a better picture of L2 learners' interaction than the previous studies which simply draw bilateral data from the production of negotiation of meaning.

For example, Donato (1988) observed small group interaction among students engaging in three tasks in a classroom setting and distinguished the different types of groups according to their orientation to the task and level of interaction. His data showed that not all groups work at a collective level of active collaboration and mutual support, and he argued that this differentiation comes from the quality of interaction that is directly dependent on the degree to which individuals share a similar value orientation of their work together. The goal of the learning activities is determined by the learners themselves, and only the learners can determine the types of knowledge required to serve personal needs and motives for a particular activity. Consequently, this determination to learn is directly transferred by the learner to the actions that serve his or her internal need.

Saunders (1989) examined the relationship between the task and the interaction that evolved. He investigated how different tasks influence the internal dynamics of peer groups. He used five collaborative writing activities representing different combinations of two factors: (1) the tasks assigned to collaborators (i.e., what they do together), and (2) the interactive structure underlying the activity (i.e., the roles and responsibilities the students assume as collaborators). The results showed that different combinations of task and interactive structure are likely to promote different types of learning as well as to produce different amounts of learning.

Lockhart and Ng (1995) identified the different stances ESL university students assume during oral peer feedback: authoritative, interpretive, probing, and collaborative. They found that the reader's stance affected the nature of the interaction, and the interaction in turn affected the students' learning strategies and the language production. They argued that the dynamics of a learning process may be influenced by various factors, including students' level of understanding, their language skills, and their perceptions of the purpose and value of the task. In addition, they found that some stances are more conducive to learning than others. For example, probing and collaborative stances encouraged the students to articulate their intended meaning of the text more than the other two stances.

Storch (2002) investigated the nature of dyadic interaction in an adult ESL classroom and built four patterns of dyadic interaction using the concepts of equality and mutuality: collaborative, dominant/dominant, dominant/passive, and expert/novice. According to Damon and Phelps (1989), equality refers to the degree of control or authority over the task, while mutuality refers to the level of engagement with each other's contribution. High equality appears in the interactions where both participants take directions from each other, and high mutuality appears in the interactions where reciprocal feedback and a sharing of ideas are rich. The result revealed that the collaborative pattern is more dynamic and fairly stable over time and across tasks.

Storch (1995) also found out that learners can scaffold each other's performance when working in pairs. However, such scaffolding is more likely to occur when dyads interact in a certain pattern: either collaboratively, or in an expert/novice pattern. In the collaborative pattern of interactions, students shared resources whenever they faced uncertainties regarding language choices, and their resolutions tended to be reached via the process of collective scaffolding. However, in the dominant/dominant or dominant/passive patterns, resolutions were neither often negotiated nor consensual, and thus afforded few opportunities for language development. Storch (1995) concluded that the relationship between learners in a group is an important factor that may influence the nature of the interaction as well as the language production.

De Guerrero and Villamil (1994) explored the dyadic verbal interactions during peer revision in an L2 writing classroom. To understand the dynamics of social interaction, they categorized the participants' cognitive stages of regulation, with reference to the regulation categories of Vygotzky's (1978) theory: the self-regulated, the other-regulated, and the object-regulated. Their results showed that the students were moving among self-regulation, other-regulation, and object-regulation. This means that students' regulation was variable and was constantly readjusted as task demands changed. When students' regulation changed, the social relationships among students also showed different patterns. Symmetrical relationships occurred when peers were at the same stage of regulation and shared control of the task to the same degree, while asymmetrical relationships appeared when partners were at different levels of regulation. Building on these two relationships, Guerrero and Villamil (1994) concluded that teachers need to provide students with opportunities to interact with peers who are at different levels of regulation because individual regulation is highly variable depending on the task.

In the field of CALL, however, there are a very small number of studies that have examined CMC interaction from the sociocultural perspective (e.g., Darhower, 2000; Jeon-Ellis, Debski, & Wigglesworth, 2005; Lee, 2004). These studies reported the social context as a crucial space where the learners establish certain relationships through the process of collaboration among learners. Jeon-Ellis et al. (2005)

demonstrated that the relationships that were developed among students had a great impact on creating learning opportunities for the students and their language development. Not building a good relationship with others resulted in fewer "language related episodes" (Swain & Lapkin, 1998) and fewer learning opportunities, while smooth collaboration generated a variety of opportunities for resolving linguistic problems, practicing newly acquired knowledge, and thus language learning. They argued that group dynamics and personality differences are important issues that have to be carefully addressed prior to the group work. Darhower (2000) employed some important constructs of sociocultural theories, such as intersubjectivity, off-task discussion, social cohesiveness, identity, flaming, and language switch and investigated the group dynamics of the synchronous CMC interaction.

However, most of the research on synchronous CMC in L2 learning still tends to understand the quality of interaction exclusively in terms of the amount of negotiation of meaning. Interaction is not an individual phenomenon consisting of private thoughts executed and then transferred from brain to brain but a social and negotiable product of interaction, transcending individual intentions and behaviors (Firth & Wagner, 1997, p. 290; Streek, 1980). In order to understand the extent to which learners achieved and maintained mutual understanding with others through their second or foreign language, interaction should be understood as "a transcendental architecture of intersubjectivity" (Heritage, 1984, p. 254) rather than as the negotiation to solve a "problem" or a "difficulty."

Chapter III

Research Design

This research was designed to investigate the interactional discourses of foreign language learners while they engaged in two different learning activities that included information gap tasks and role playing task. These two activities were implemented in two different learning environments: computer-mediated communication (CMC) interaction and face-to-face (FTF) interaction respectively. In particular, my research focused on the comparison of the interactional discourses of the triad groups performing information gap tasks that contributed to promoting the negotiation of meaning with role playing tasks that were less structured and more open-ended.

Socio-cultural theory contends that learning a language is profoundly bound to social practices; thus, I incorporated insights from this theory in my research and examined L2 interactions that occurred naturally in an ESL class. This chapter describes the participants, setting, materials and procedure, and data collection. Within the data collection section, further description is included regarding the following: video/audio taping of the conversations, transcripts of the MSN chatting log, survey, and the writing worksheet. Reliability and validity are discussed in the last section of this chapter.

3.1 Study Population

The research population consisted of all English as Foreign Language (EFL) learners enrolled in the Kangwon Teacher Education Program (KTEP). KTEP is an intensive four-week teacher education program offered every summer by the Faculty of Education in the University of Alberta. Sponsored by the Government of Alberta and the Kangwon Province of South Korea, 24 Korean teachers of English came to Canada to participate in the program. The program was composed of various sectional activities, and one of the sectional activities was ESL activities. The data for my research was collected while the participants engaged in the ESL activities. Because the research participants taught English in Korea, they had the capabilities to successfully perform a task in English.

During the activities, anonymity of the participants was guaranteed by using pseudonyms; the same pseudonyms were recorded in the written material. All data was kept secured thereafter under the researcher's supervision during the research period and for the time required under current research protocols as established through the Ethics Review Board at the University of Alberta. The participants were also reminded after each activity that they could opt out of the study or choose not to have their work considered for the project without prejudice or penalty. However, 18 of the 24 participants agreed to participate by signing the consent form that was developed and approved through the ethics review process; these 18 remained in the study.

The gender breakdown of the 18 participants was equal: 9 females and 9 males. Their ages ranged from 30 to 50, the average age being 41.6 years. Their experience learning English was diverse, ranging from 4 to 37 years. This information is shown in Table 1. All the participants, except one, had a computer and Internet access at home. However, all the participants including the person who did not have a computer at home used computers at work every day, and all participants were familiar with using computers for communication purposes. All of them were also familiar with typing English letters, because they were English teachers in Korea. The amount of time that the participants used computers varied from 2 to 20 hours per week. According to the survey that was described in the subsequent section, 4 people used computers for 2 to 5 hours, 5 people for 6 to 10 hours per week, 6 people for 11 to 15 hours per week, and

3 people used computers for 16 to 20 hours per week. Participants responded that they usually used computers to check emails, to find and make teaching materials, to get information from the Internet, or to study English. The demographic information about the participants is summarized in Table 1.

Table 1. The Demographic Information about the Participants

Age	Gender	Years of learning English
30s: 7 40s: 9 50s: 2	Female: 9 Male: 9	1-5 years : 1 6-10 years : 6 11- 20 years : 4 More than 20 years: 8

Although all the participants were English teachers in Korea, their level of English varied from Intermediate low to Intermediate high, according to the ACTFL Proficiency Guidelines (Hadley, 1993). According to the ACTFL Proficiency Guidelines for the Intermediate level, the ESL learners were able to successfully handle uncomplicated, basic communicative tasks and social situations. In addition, some of the teachers had unbalanced English skills in the way that they had a much lower level of listening or speaking skills than writing skills. This seemed to be due to the influence of the EFL contexts that mostly emphasize grammar-based instruction.

The 18 participants were randomly divided into 6 groups; each group was composed of 3 people. Each group had 4 sessions and performed the 2 activities previously noted in 2 different settings. That is, 2 sessions were performed in CMC environments, while the other 2 sessions were conducted in FTF environments. In order to remove the possible confounding factor of the primacy effect, 3 groups started with FTF sessions, whereas the other 3 groups started with CMC sessions.

3.2. Setting, Procedures, and Materials

The computer program used for the CMC synchronized activities was Microsoft's MSN messenger. The MSN messenger is a popular web chatting program and was chosen because it has the capability both of multi-party communication and of recording the conversational exchanges among the participants. The features of MSN messenger allowed the building of as many virtual rooms as desired for group meetings, and recorded the script of the discourses that occurred during the participants' interactions. Because the program kept recording the exchanges among the participants, they could scroll back to review previous utterances while they continued interacting.

A pre-computer session was given to all the participants, so that they would all feel more comfortable with working in a new environment and using the MSN messenger before they engaged in the actual CMC activities. For the CMC activity, all the participants were given a personal computing ID and password in order to log into MSN messenger group meetings. In the pre-computer session, the participants were instructed on how to log into the MSN messenger, find their rooms, and begin interacting with the other two partners. The session also had practice time allocated for these activities. However, since the nature of their teaching jobs in Korea requires a lot of work using computers, all the participants were familiar with using computers, and no one had a problem in logging in or using MSN messenger.

The actual sessions were composed of 2 face-to-face sessions and 2 CMC sessions, and all 18 participants finished the 4 sessions. All 4 sessions were performed during 2 consecutive days. That is, the first session was conducted in the morning of the first day, the second session in the afternoon of the same day, the third session in the morning of the second day, and the fourth session in the afternoon of the second day. Three groups started with the FTF activities on the first day, and the other 3 groups started with the CMC activities on the first day. One hour was estimated for the task interaction in each session, but the actual session time varied according to the time required by each group to finish each task. Some groups finished their tasks earlier than the allocated time, because they thought they had done all the required work.

The FTF sessions were conducted in a large classroom where the nine participants were randomly split into three groups, and there were no specific criteria for the group composition except that of ensuring gender mix in each group. Each group sat around a table with an audio tape recorder that recorded their discourse. Beside each group, a video tape-recorder was situated to record their actions and behaviors while they interacted. An ESL teacher supervised the participants while they engaged in the two activities.

The CMC sessions were performed in a computer lab where all the computers were set up with the Window operating system, and each participant was assigned to a specific seat with a computer. Each computer was separated by a considerable distance, so as to limit the possibilities that participants could communicate with each other through talking directly. A video tape recorder was used to record the behaviors of the whole group working at their own computers.

Each group performed the two different tasks: an information gap task and a role playing task. The information gap task was a closed task that required the participants to produce a specific convergent outcome by interacting with the others in the group. Each group had a set of thematic picture sheets, and each set of picture sheets included three pieces of a thematic picture that contained a theme of people in a coffee shop kitchen, in a bus, or in a medical clinic. The three pieces of each picture had the same content but with 15 to 20 differences. Thus, each group had a different thematic picture sheet and each person within a group had one of the same thematic picture sheets as the other two people in his or her group. The participants were not allowed to see the other participants' pictures and needed to explain his or her picture to the others in order to find the differences among the three sheets of pictures. A work sheet containing an empty column was also distributed to each individual, and individuals wrote down on the writing work sheet the differences they found.

The role playing task was an open-ended activity entailing less structured interaction among the participants. The same groups gathered again to complete the second activity, and they were asked to use the same picture sheets that were distributed in the information gap activity. Each individual was assigned to play a specific role of a character from his or her picture, and each group was asked to make a story on the basis of the contexts of the pictures. Unlike the information gap activity, there was no worksheet to complete the task. The participants were allowed to build an imaginary identity using the roles that were assigned and to create a story by cooperating with the other two partners.

Immediately following the four sessions, all participants spent half an hour completing a survey. In order to collect personal information such as gender, age, native language, birthplace, years of learning English, years of teaching English, and their previous CMC experiences, a paper-based survey was prepared by the researcher and distributed to each participant during the sessions. All the questions were written in English, and the participants responded to the questions in English without any challenges.

Prior to the study, the information letter and the research consent form for each participant was prepared by the researcher and reviewed by the ethics committee at the University of Alberta. These pages explained the purpose, content, and procedures of my research to the participants and sought their agreement to participate as indicated by signing on the informed consent pages. The letters also contained the information about how I, as a researcher, would ensure the confidentiality and anonymity of the participants' information, and how I would protect the participants' right from any penalty, prejudice, and harm, if they decided to opt out of the research at any time.

3.3. Data Collection

Data collection for my research borrowed heavily from Markee's (2000) Conversational Analysis (CA) perspective; this perspective emphasized the organizational details of naturally occurring actions and interactions. In order to focus on a participant's perspective, conversational analysts were required to present a rich description of context. Markee (2000) argued that clear and extremely fine-grained transcriptions would be required to capture the complexity of talk-in-interaction and that the use of sampling procedures was avoided in CA, because such techniques were likely to exclude vital details from the analysis.

Therefore, for this research, I collected data from four different sources: (a) the video tapes and the audio tapes that recorded the conversations of the FTF sessions; (b) transcripts of the MSN messenger interactions for the CMC activities; (c) the survey data; and (d) the writing sheets that the participants used to write down the outcomes while performing the information gap activity.

3.3.1 Video/Audio Tapes That Recorded the Conversations

All of the conversations of each group during the FTF sessions were recorded by a digital video-tape recorder and an audio-tape recorder. The original amount of time for recording was expected to be an hour per session, but the recording time of all the groups turned out to be different according to each group's decision to finish the activity and the different groups' dynamic of interaction. Although the instructions about the scheduled time for interaction were provided carefully before the FTF sessions, some groups decided to stop recording when they felt that they had finished all the requirements of the task or that there was nothing more to discuss regarding the task. On the other hand, some groups needed a whole hour to finish the tasks.

Twenty-four sessions required transcription as six groups each performed four activities, and I followed the CA standards for transcriptions, showing the conversational turns, sequences, pauses, overlaps, backchannels, and pragmatic markers such as silence, "okay," "oh," or pitch of low voice. Since the quality of the recorded sound was not good in the video tapes, I had to depend mostly on audio-tapes as the main source for the transcription, and the video-tapes were used as an assistant source for the transcriptions whenever unclear interactional discourses appeared.

After all the participants' interactions were transcribed, I accidentally discovered from conversations with the participants that the FTF group conversations were sometimes not maintained by three participants due to several reasons, such as instructor's intervention into the group's interaction, or a participant going to a washroom. However, the CMC group conversations were always maintained by three participants. Therefore, I decided to exclude those parts of the FTF discourses that did not include three participants before comparing the FTF discourses with the CMC discourses. Since the purpose of this research was to examine and compare the discourse patterns of triad groups in FTF and CMC, the parts of the FTF transcripts, involving the discourses between only two people or among four people including the instructor, were excluded because they would possibly have affected the quality of the triad group discourses in FTF and would have confounded the results when the triad group discourses of FTF and CMC were compared.

3.3.2 Transcripts of the MSN Chatting Log

One significant advantage of the synchronized CMC based activities was the chatting window, because it not only showed the information with respect to who entered or left the group room but also recorded the conversation among the participants. Unlike an FTF discussion where a specific device such as a video-tape recorder or an audio-tape recorder was required to record the conversation, all the transcripts of the CMC conversation were easily stored and displayed for inspection. Compared to the data of the FTF interactions, which required considerable work and time to transcribe, the transcripts from the MSN chatting logs was an efficient method of data collection.

The quantity of data from the MSN chatting log was much less than that from the FTF activities, because the synchronized CMC interactions asked the participants to spend much more time typing their utterances and waiting for the responses from their partners than would occur in FTF interactions. In addition, any other interventions or interruptions were not shown in the data from the CMC interactions. Given the reasons noted above, the entire data from the CMC interactions was used for the analysis.

3.3.3 Survey

Information about personal background and feedback about the sessions were gathered by a survey. The survey was composed of four parts. The first part gathered personal information, including each participant's age, pseudonym, gender, school, native language, birthplace, years learning English, and years teaching English at schools. The second part concerned the participants' use of computer, such as whether or not they have a computer at home or have the Internet access at home, how many hours they use computers each week, and for what purposes they usually use computers.

The third part assessed the participants' previous experiences of CMC and FTF activities, such as whether or not they were interested in learning English using a computer or had tried some activities through CMC before the sessions, what kind of CMC activities they used before the sessions, and if they had tried an ESL activity using a computer before the sessions. The last part of the survey asked how they liked the FTF and CMC sessions, the difficulties in doing the computer activities, the effects of technology on their learning English, their preferences toward CMC and FTF, and if they wanted to try any other similar activities using the computer.

Some questions were of binary form, where participants responded by checking yes or no, while other questions were of multiple-choice format. The remaining questions were open-ended where participants composed their responses in the blank spaces.

The survey data was gathered immediately after the research activities. However, the information that was used for this study was only the participants' background information from survey parts 1 and 2, and their difficulties in doing the CMC activities from part 4. The participants' background information provided their genders, ages, and their English experience, as well as their familiarity with a computer. The information regarding their difficulties in doing CMC activities was also useful in understanding the change of the participants' L2 discourses in the two communication modes.

However, some data from survey part 3 and 4 was not used, because it did not provide much information about the differences of L2 discourses in FTF and CMC. The survey part 3 asked about the participants' experience of CMC as their teaching and learning medium. The results showed that all the teachers did not have much experience using CMC, and they were not able to provide any information about their perspectives about using CMC as their teaching and learning medium. The survey part 4 asked about the participants' feelings about the FTF and CMC activities that they experienced through this study. The results demonstrated that the participants showed a similar rate of preference toward FTF and CMC activities. Therefore, the survey data from these two parts were excluded from the research data.

3.3.4 Writing Worksheet

The writing worksheet was developed for the information gap activity that asked the participants to seek convergent outcomes. The purpose of the writing worksheet was to have the participants write down their findings while solving the problems of the information gap task. I believed that the worksheet might provide some information on whether or not a participant understood the problems that his or her group were discussing to solve the task. However, the worksheets were not used for the data analysis, because they did not reveal much information on the participants' understanding on the group discussion.

3.4 Reliability and Validity

Until now, CALL researchers have mostly tended to employ experimental, quantitatively oriented methodology. Even though quantification has provided many important insights into CMC for language learning, there is a need to explore ways that can explain and clarify a more detailed picture of the interaction among the participants and analyze each participant's contribution to the ongoing discourse. For example, quantitative data could be used to calculate the participation percentage of a speaker, but that data does not show in what way the speaker participated in the conversation, why the speaker participated in a specific way, or in what way a specific conversation influenced the speaker's discourse behavior.

In order to overcome the aforementioned limitations of quantitative research in this area, this study borrowed from a qualitative research methodology, using conversational analysis and a quantitative research methodology, using discourse analysis. The two methodologies were not employed for separate data analysis, but for complementary investigation. In other words, the quantitative data was analyzed and then reexamined in detail through qualitative data analysis. The findings from both research methods showed consistency, and both approaches contributed to data triangulation. That is, both approaches played a role to support the findings of the other approach.

In order to increase the reliability of the framework developed for the discourse analysis of the collected data, this study adopted an auditor who was willing to read the three samples of the conversation transcripts of the participants as well as the specific rules for the framework to categorize the participants' discourses. After categorizing the participants' utterances according to the framework rule, the categorized results that the auditor produced were reviewed together with those that the researcher produced. Although the messages of the CMC discussions were much harder to categorize because of the different turn taking system in the CMC, sometimes the turns of the participants were mixed. The auditor and researcher reached an agreement about the principles of the Intersubjective model and the specific rules of the categorization.

For the qualitative data, as Peräkylä (1997) claimed, reliability presents a serious challenge for CA research. However, in order to satisfy the requirements of dependability which is a qualitative parallel to reliability in quantitative research, the transcripts were developed to contain as much information as possible about the conversation, such as prosodic features, events, and all the other relevant features of the interaction in the case of face-to-face based activity, so that the qualitative data provided a deeper explanation of the simplified picture of the quantitative data.

This study also used several sources of data to ensure that the concepts derived from the quantitative data were consistent with the observations from the qualitative data, such as the video-taped conversation, written transcripts, surveys, and writing work sheets that the participants completed while engaged in their tasks. The multiple accounts of the participants' discourse behaviors in relation to the other participants and the contexts were able to increase the credibility of the explanations on some important concepts and arguments about the L2 interaction and negotiation that were established in this study. For example, in addition to the written transcripts or the video-taped conversation, the survey results and the participants' writing worksheets often provided additional information, such as the participants' perspective about their discourse or the information concerning if and how they perceived each group completed or did not complete each task successfully.

In addition, this study used comprehensive data from the conversation transcripts. In order for the collected data to reveal a prototypical example that gives discursive form to the phenomenon, an extensive amount of textual data was collected from the 24 discussion activities of the six groups, and all the data from the discussions were analyzed except the discussions on the procedures or the off-topics.

Although a huge amount of time had to be spent transcribing the data, this study was able to find prototypical discourse features by examining the extensive amount of data and by testing six groups of people with the same activity within both of the two communication modes. This study also provided more textual evidence through a thick description of the details of those prototypical discourses.

Chapter IV

Data Analysis Methods

Discourse analysis has now become a very diverse area of study, with a variety of approaches emerging from within a number of disciplines. However, researchers investigating the language properties of discourse usually tend to be guided by one of two approaches. One approach is to adopt a perspective from linguistics; that is, to analyze the discourse by applying researcher-driven language analytic methodology, and investigate the idealized language competence such as presented by Sinclair and Coulthard's IRF Model (1975).

The other most frequently applied approach is to investigate the language properties of discourse with an emic perspective that looks at discourse as an unstructured emergent phenomenon and explicates meaning in terms of the local context of talk-in-interaction, that is, conversation analysis as described by Garfinkel (1967) and Schegloff (1987). Such studies are characterized by a strong emphasis on actual language behavior, and often take the form of an explication of a text or corpus from which can be deduced more general facts about human behavior (e.g. Philips, 1984; Schiffrin, 1984). Very recently, more and more CALL researchers who were initially influenced by the CA perspective began to investigate CMC discourses by extracting case examples from the interaction data for detailed resources.

For my research purposes, it was necessary to use both perspectives. The linguistic approach was necessary to find the overall interaction patterns of each activity and to compare this data with the interactions in the other activities or in the other environments. The CA approach was also adopted as my research methodology to enable me to collect more detailed information about how an individual's discourse changed according to the different activities or the different learning environments.

However, the existing linguistic methodologies, such as Sinclair and Coulthard's IRF Model (1975), were mostly developed for the analysis of the general classroom interactions between the teachers and the students and not for the group interaction among the L2 learners. Many CALL researchers who initially adopted the linguistic perspective to analyze their data realized its limitation due to its inappropriate theoretical motivation and began to rely on simplistic research methods, such as comparing the frequency of turn taking in a group, the numbers of produced words, the lengths of turns, or the complexities of the utterances in FTF and CMC.

Thus, in making the final decision about what methods would guide my study, the IRF methodologies were not appropriate, since my research purposes were to compare FTF and CMC discourse patterns among group interactions. Therefore, it was necessary to develop a new method that could analyze the triad group discourses that constantly changed in different environments. In other words, the method for analyzing the triad group discourses had to determine if overall group discourse patterns were affected by various factors, and thus changed according to the different environments. However, the use of an emic approach was retained to give the detailed portraits of the changing L2 discourse patterns that were revealed through the linguistic analysis.

The objective of this chapter is to describe briefly the two approaches of discourse analysis that have different social orientations but represented two of the perspectives that guided the analysis of the discourse collected for this study. That is, the linguistic perspective guided the analysis of the quantitative data, and conversation analysis informed the analysis of the qualitative data. In addition, a rationale for developing an analytical framework and the resultant intersubjective model are included. The final section discusses the procedures employed in analyzing the data that were collected.

4.1 Sinclair and Coulthard's IRF Model

Sinclair and Coulthard (1975) developed a general descriptive system for analyzing classroom discourse by concentrating mainly on interactions between the teacher and individual students. Their descriptive system which originally evolved from the units in early forms of systemic grammar (Halliday, 1961) consisted of five descending units: lesson, transaction, exchange, move, and act. Each unit represented a rank of a scale, with units of higher rank being made up of units of the rank below. For example, a lesson was made up of transactions, which were made up of exchanges, and so on.

The smallest unit of the discourse structure was the act. Acts made up of clauses or single words were functional rather than formal categories. Sinclair and Coulthard (1975) categorized 22 acts for classroom discourse. The categories were controversial because one act could be interpreted as several different acts according to the situation. For example, an informative act (e.g. "The door isn't closed.") could be interpreted as asking for confirmation, requesting someone to close it, or just giving information.

The second smallest unit of discourse structure was the move, which consisted of one or more acts. The basic move types were classified as: framing and focusing in the boundary exchange, and opening, answering, and follow-up in the teaching exchange (Sinclair and Coulthard, 1975). Subsequent versions (Coulthard & Brazil, 1992; Sinclair, 1992; Sinclair & Coulthard, 1992) added more types for the move such as eliciting, informing, and acknowledging.

A group of moves made up an exchange. One of the canonical exchange types in the typical classroom discourse was eliciting exchange, and it typically took the form of IRF with elements of three moves: an initiating move (I), a responding move (R), and a follow-up move (F). An example of an eliciting exchange was given in the following example.

Example A: Excerpt from Sinclair & Coulthard (1975, p.21)

Teacher: Can you tell me why do you eat all that food? (I)
Pupil: To keep you strong. (R)
T: To keep you strong. Yes. To keep you strong. (F)

In Example A, the teacher's first contribution was an initiating move, the pupil's contribution was a response, and teacher provided "Follow-up" as a second contribution. Example B was more complicated than Example A because Example B was a transaction made up of two exchanges. The first exchange entailed IR sequence and the second one followed the typical IRF sequence. Although the teacher's utterance, "Pardon?" appeared as though it was a response to the pupil's "Nothing," the IRF model would understand the teacher's utterance as a new opening to elicit a new exchange because it made the interlocutor return to the initial state of the exchange.

Example B: Excerpt from Sinclair & Coulthard (1975, p.56)

Teacher: What are you laughing at? Rebecca? (I)
Pupil: Nothing. (R)
Teacher: Pardon? (I)
Pupil: Nothing. (R)
Teacher: You're laughing at nothing. (F)

Transaction was the second largest unit of structure, and it was opened and closed by "boundary exchanges" that consisted of "framing moves" with or without other moves. For example, "Well, today I thought we'd do three quizzes" had the two moves: a framing move ("well") and a "focusing" move (about the transaction that we would do today) (Fairclough, 1992, p. 13). Between the boundary exchanges, there was usually a sequence of "informing," "directing," or "eliciting" exchanges, in which statements, requests, or questions were found. Lastly, the largest unit of structure corresponded to a lesson, and consisted of a sequence of transactions. However, there was relatively little to say about the structure of the lesson, because it was primarily the result of situational or institutional factors rather than of linguistically relevant structure.

The strength of the Sinclair and Coulthard (1975) framework was due to the pioneering systemic approach that explained the organizational properties of dialogue. However, its limitation was that the framework was a tool for systematic study for analyzing two-party discourses between the teacher and individual students, and two-party discourses do not reflect the diversity of current classroom practices (Fairclough, 1992). Thus, Fairclough (1992) remarked that there was concern as to whether the IRF Model can be applied successfully to discourses involving more than two participants, particularly the ESL classroom discourses where multi-party group works were often employed.

Although Sinclair and Coulthard's framework served as a point of departure for my linguistic analysis, my framework was developed on the basis of Leo van Lier's types of pedagogical interaction (van Lier, 1996) and Norman Fairclough's interactional control features (Fairclough, 1992).

4.2 Conversation analysis

Historically, Conversation Analysis (CA) started in the late 1960s and early 1970s as a sub-discipline of sociology. Schegloff (1987) explained that CA was developed by a group of sociologists who called themselves "ethnomethologists" and were establishing themselves as a separate discipline. Ethnomethology is an interpretative approach to sociology which concentrates on everyday life as a skilled accomplishment and upon methods that people use for producing it (Garfinkel, 1967). Thus, CA initially started with describing the organizational structure of mundane, ordinary conversation. In other words, CA researchers usually focused on casual social talk that routinely occurred between friends and acquaintances and described this organizational structure in terms of sequences, turn-taking, and repair practices (Goodwin, 1981; Jefferson, 1974, 1978; Schegloff, 1968, 1990, 1992).

However, since the late 1970s, increasing attention was given to analyze the structure of talk that was used in institutional contexts such as news, medical, courtroom, and classroom contexts (Drew & Heritage, 1992). This was the beginning of the domains that CA expanded to include. That is, both ordinary conversation and institutional talk were added. For this reason, the more encompassing "talk-in-

interaction" was included under the analytical umbrella of CA.

With recent developments of the socio-cultural perspective supporting the empirical settings and the organizational details of naturally occurring actions and interactions, many SLA researchers began to attend to the potentials of CA and identified it as having the potential to be a complementary analytic tool along with socio-cultural theory (Markee & Kasper, 2004; Mondada & Pekarek Doehler, 2004; Young & Miller, 2004). According to CA researchers, CA's analytic tool potential enabled a researcher to investigate learning behaviors systematically as a conversational process that observably occurred in the intersubjective space between participants. It also allowed a researcher to analyze each participant's contribution to the ongoing discourse with insight into what preceded and followed a particular turn at speaking (Kitade, 2000). These researchers also believed that applying the CA as an analytical-what? also made a fundamental contribution to increased understanding of both the context-dependent and the context-renewing methods, which are the methods that assisted learners to become competent members in a community of practice (Mondada & Doehler, 2004).

CA was guided by a qualitative method, and thus it used the usual processes associated with qualitative research. However, CA was less concerned with interpreting the content of texts, such as interview responses that were produced for research purposes. Rather, the focus was on the formal procedures through which the texts were mediated and certain situations were produced. For this reason, CA attempted to explain the conversational practices by analyzing the structure of either single cases or a collection of talk-in-interactions. The primary evidence for the asserted existence of particular conversational mechanisms was directly motivated by the conversational data presented for analysis.

CA was epistemologically similar to ethnography, as both these approaches focused on the particular rather than the general and also sought to develop a participant's rather than a researcher's perspective on the phenomenon that was being studied. In order to develop a participant's perspective, both methodologies developed a rich description of context. However, conversational analysts and ethnographers do not necessarily understand context in the same way.

For ethnographers, understanding people's practices involves developing a "thick description" of their local knowledge. For such a thick description, ethnographers collect a detailed profile of people's cultures and biographies through a variety of data collection techniques. Typical data include video and audio-tapes of behavior, transcripts, interviews, and retrospective talking-aloud protocols. These various kinds of data are often triangulated by the researcher in an effort to document the multiple perspectives from different participants regarding a given event.

Generally, CA researchers regard audio/video tapes and the resulting transcripts as their primary source of data, and thus usually do their own transcription. This is because transcription is viewed as an essential part of the discipline of doing CA. Some conversation analysts incorporate ethnographic information into their analyses, claiming that such information is necessary for a complete understanding of talk-in-interaction. However, researchers who work within the "purist" tradition of CA do not include ethnographic accounts of people's cultures or biographies to make an argument, except when there is internal evidence in the conversational data that is sufficient to warrant the introduction of such data.

One significant accomplishment and contribution of CA is the turn-taking rules which were proposed by Sacks, Schegloff and Jefferson (1974). The turn-taking rules of CA are simple, but very powerful rules that could be applied to the completion of a 'turn-constructional' unit which can be a complex sentence, a simple sentence, a phrase, or a word. Participants were able to determine the point of completion with great accuracy. According to the turn-taking rules, the point of completion of one turn was determined when: 1) the current speaker may select the next speaker; 2) if no selection was made, then the next speaker may, in turn, select his or her turn; 3) if no selection was made by the current speaker or the next speaker, the current speaker may continue. The rules allowed for considerable variation on the order and length of turns.

Another important accomplishment of CA is the "sequential organization" of talk-in interaction. The "sequential organization" of talk-in interaction was made on the assumption that any utterance constrains what could follow it. In other words, turns showed an analysis of prior turns, giving constant evidence to interpret the text. Adjacency pairs, such as question-and-answer or complaint-and apology, were one of the examples. A speaker's question was sequentially related to an answer from another in the next utterance. For example, when the utterance x sequentially implicates y, the utterance followed by x was taken as y ("for instance, if 'Is that your wife?' was followed by 'Well, it's not my mother,' the latter was likely to be taken as an implied positive answer"). However, if they did not occur in the next utterance, a ground for an inference could be made about the absence ("for example, if teachers failed to give feedback to learners' responses, this could be taken as implicitly rejecting them") (Fairclough, 1992, p. 18).

The strength of CA was that it focused on the learning process that was continuously constructed though the talk of participants. Their emphasis on the learning process allowed the researcher to examine the internal structure of the interaction, which involved the orientations and relevancies that participants displayed to each other through their interactional conduct (Markee & Kasper, 2004; Schegloff, 1992). However, the limitation of CA was that it focused on each single case by extracting meaning from the local context of talk-in-interaction. Therefore, an overall picture about organizational or linguistic patterns of the interaction was revealed in a complicated manner through the CA approach. In particular, when researchers wanted to compare a discourse pattern of an interaction with the other interaction types or the ones in the other settings, the CA approach depended on the descriptive explanations of each interaction, rather than show a landscape that could easily compare the differences of the discourses.

4.3 Rationale for Developing an Analytical Framework

Transcribed data of this current study were examined to determine the applicability of the Sinclair and Coulthard's IRF (1975) model with the data. The following was a sample of the interaction data that occurred among the three participants in Group 1.

Example: The analyzed data using the Sinclair and Coulthard's IRF model
Note: (1) A: Participant A; (2) B: Participant B; (3) C: Participant C

L1 A: hm. I I can see one child. (I)
(short pause)
L2 B: One child? (I)
L3 C: One child. (R)
L4 C: He uh ++ (I)
L5 B: Measuring her heights? (I)
L6 C: Yes. Doctor [me] + uh measuring the heights. (R)
L7 B: hm Hm hm. (F)

In the above sample, the three participants described the picture of a medical clinic. Participant A, Participant B, and Participant C talked about a child in their pictures. Participant A initiated the topic of the child, and Participant C completed a sentence with help from Participant B. From Sinclair and Coulthard's point of view, the above sample consisted of four separate exchanges and thus four openings to elicit an exchange; Participant A's informing opening in Line 1, Participant B's eliciting opening in Line 2, Participant C's informing opening in Line 4, and Participant B's eliciting opening in Line 5.

However, when the transaction was examined carefully, all the exchanges within the transaction were actually interconnected, and all the openings (except the first one) actually functioned as a bridge to expand the previous exchange rather than working as a new starting point to elicit a new exchange. In other words, the IRF model did not properly explain the interrelatedness among the exchanges in which the participants negotiated their meanings and intersubjectively constructed their knowledge to accomplish a task goal. A more complex system that could explain beyond an "Initiation," "Response," and "Feedback" sequence was required for my research.

The essential concept of intersubjectivity in conversation had already been stressed by many scholars studying discourses (Levelt, 1989; Merleau-Ponty, 1945; Rommetveit, 1974; van Lier, 1996). For example, Levelt (1989) stated:

> A speaker has to tune his or her talk to the turns and contributions of the other persons involved. His or her contributions should, in some way or another, be relevant to the ongoing interaction. By anchoring their contributions in the

> shared here and now, interlocutors can convey much more than what is literally said (p. 29).

The importance of intersubjectivity in conversation was also highlighted by Merleau-Ponty as follows:

> In the experience of a conversation…my thoughts and his make up a single tissue, my words and his are called out by the phase of the discussion, they insert themselves in a common operation of which neither of us is the sole creator. A double-being comes about, and neither is the other one for me a simple behaviour…nor am I that for him, we are, one for the other, collaborators in a perfect reciprocity, our perspectives glide one into the other (cited in van Lier, 1996, p. 168).

Another important limitation of the Sinclair and Coulthard's IRF (1975) model was that it did not address the linguistically relevant structure of interactions. The basic structure was primarily motivated by the social orientation of each utterance, and primarily focused on explaining why a particular utterance was socially related to the next utterance. Therefore, it did not provide any information about the linguistic structure of each utterance. Francis and Hunston provided an example of a doctor/patient interview and argued, "the fact that examination will precede diagnosis, and diagnosis will be followed by prescription has little to do with linguistic structure" (cited in Malouf, 1995, p.4).

The research has reported that examining the quality of discourses had been one of the main concerns in CALL as well as in SLA. However, with the lack of a theoretically motivated approach, most research comparing the FTF and CMC relied on length of turns, the number of turns, the number of the produced words, the lexical range, or the syntactic complexity. Yet, findings often showed contradictory results rather than suggesting a converged direction. Because those factors were often confounded with an L2 learner's individual style of speaking and writing, the results were often contradictory and inconsistent. Therefore, a different conceptual tool that investigated the interactional pattern as well as the quality of discourses needed to be developed for my research.

4.4 The Intersubjective Model

The purpose of developing a new model for the current research was to be able to investigate how L2 learners interacted with the other participants in a triad group interaction, what type of discourses they used, and how their discourses were affected by the discourses of the other participants or the other contextual factors. In other words, the model should be able to show not only the changes in the L2 learners' roles and relationship with the other participants but also the changes in their linguistic skills during their interactions.

Because the previous models mostly focused either on the interlocutors' social orientations or the linguistic skills, the development of a combined conceptual framework was necessary to examine not only the changes of the discourse patterns of triad groups but also the changes of each participant's social roles and linguistic skills in the different contexts and activity types. Therefore, the intersubjective model was developed for the purpose of revealing both of these changes at the same time and providing an overall discourse pattern on a specific triad group interaction. The goal was to be able to compare the patterns within a triad's group discourse patterns in another activity or compare them with the patterns of the other groups in different contexts. Van Lier's (1996) types of pedagogical interaction, Norman Fairclough's (1992) interactional control features, Varonis and Gass' model for negotiation of meaning (1985, see the Chapter 2), and the Sinclair and Coulthard IRF Model (1975, see the section 4.1 of this chapter) provided valuable insights for developing a new conceptual framework that was integrated for my research purposes.

Van Lier (1996) proposed four types of pedagogical interaction that showed the levels of learning power. His types of pedagogical interaction explained how the classroom discourse could vary according to different features of interactions and presented the various distinctions and continua of the social interactions for the purpose of examining their learning power (see Figure 2).

According to van Lier's (1996) types of pedagogical interaction, the first interaction level was transmission, which focused on the delivery of information from one person to another. Lectures, sermons, drills, and commands are typical examples of this interaction level. The second interaction level included initiating, responding, and follow-up questioning, mostly represented by the expert's questions and the student's answers. Therefore, the plan and the direction of the discourse are determined by the questioner rather than the students.

The third interaction level was transaction in which information exchange was jointly determined by all participants, even though the structure and agenda were continually imposed externally. Typical examples were group discussion, business negotiations, and information exchange tasks; most cooperative learning in classrooms belonged to this level. Transformation was the highest interaction level where participants' contributions were self-determined or produced in response to others' requests. Therefore, all the participants jointly worked to shape the agenda, to construct their meanings together, and to change the learning situations.

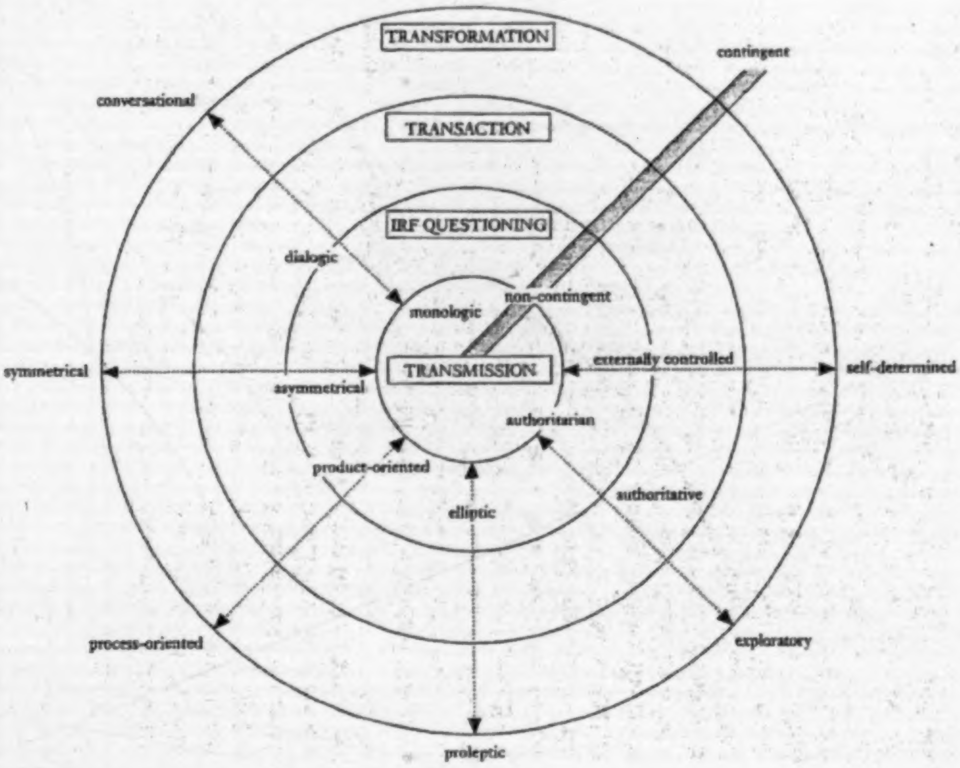


Figure 2. Types of pedagogical interaction (van Lier, 1996, p. 179)

Van Lier (1996) also argued that classroom discourse could vary along pedagogical dimensions because of the dynamic tensions of the different features of interaction, such as the dynamic tensions between autonomy and external control, between conversation and monolog, between authority and exploration, between product and process, between ellipsis and prolepsis, and between non-contingent discourse and contingent discourse. As shown in Figure 2, the different features of interaction became prominent as interaction moved outwards in a centripetal fashion, away from the closed center of the spectrum. For example, when interaction moved towards the outer realms, the predictability of IRF exchange was loosened, ellipsis was replaced by prolepsis, authoritarianism yielded to authority, creating the potential for joint exploration, and so on.

Fairclough (1992) also presented analytical properties to investigate the social and power relations between participants. The interactional control features that he suggested revealed the social and power relations between participants, and it included turn-taking, exchange structure, topic control, setting and policing agendas, and formulation. These features embodied how the participants negotiated their relations in social practice to ensure the smooth interaction with the other participants.

Fairclough (1992) explained that turn-taking systems were not always built around equal rights and obligations for all participants, and the distribution of rights and obligations commonly occurred between powerful (P) and non-powerful (N-P) participants. According to his explanation on the asymmetrical turn-taking systems, (i) P may select N-P, but not vice-versa; (ii) P may self-select, but N-P may not; or (iii) P's turn may be extended to make several points. He also suggested that P may have the right to interrupt N-P when P believed that the topic is irrelevant to P's criteria, and that, by doing so, only P may have the right to control the topic.

Exchange structure was also one of the important interactional control features that Fairclough (1992) suggested. He explained that the nature of the exchange system is relevant not only to turn-taking, but also to the sort of things people could say. For example, teachers can initiate an exchange to give students information, ask the students questions, set out agendas for the class, or control their behaviors. On the other hand, the students may be constrained in what they can say or do according to the teacher's way of making exchange structures for a transaction.

Fairclough (1992) was also interested in the topic control in asymmetrical discussion. In conversation, topics were typically offered by one participant, accepted (or rejected) by another, and then elaborated by the first participant. However, in the asymmetrical discussion, topics were often introduced and changed only by the dominant participant often according to a pre-set agenda or routine.

Fairclough (1992) also argued that the setting and policing of agendas was also an important element in interactional control. He claimed that setting agenda is one way of conversation control by P over the initiation and termination of an interaction as well as the structuring of transactions. For example, teachers set an agenda at the beginning of lessons, or of transactions within lessons in order to control the lesson.

The agendas are also policed by P in order to keep other participants in compliance to their agendas during an interaction. For example, the initiation-response-feedback exchange system was a powerful way of policing agendas. The system structured the power of teachers over students, and it also situated the students in a test or examination situation due to its evaluative discourses. Even in a general conversation, there were various ways in which one participant could police the contributions of others. When N-P showed ambivalent attitude or silence, P often forced N-P to be explicit or to acknowledge what had been said by P, saying "You understand that?" Or "don't you?"

Formulation is the last element of interactional control that Fairclough (1992) suggested. Building upon Fairclough's ideas, Sacks described formulating as a member's treating "some part of the conversation as an occasion to describe that conversation, to explain it, to characterize it, to explicate, or translate, or summarize, or furnish the gist of it, or take note of its accordance with rules, or remark on its departure from rules" (cited in Fairclough, 1992, p. 157). For example, a participant may formulate her version of what has been said, and attempt to win acceptance from others, which may then restrict the others' options in ways that are advantageous to the former.

On the basis of the above existing frameworks, new concepts emerged for the intersubjective model, such as initiator, continuer, positive informer, positive response, and negative response. These concepts were developed while analyzing the data of this study and comparing these concepts with the concepts of the existing linguistic and interactional frameworks. For example, the concept of initiator came from the elements of three moves of IRF model (see section 4.1 of the current chapter), and the concept of continuer was developed from the concept of "indicator" in Varonis and

Gass' model for negotiation of meaning. The concepts of informer and follow-up emerged from the concept of "response" and "feedback" in the Sinclair and Coulthard IRF Model. All of these concepts were investigated on the basis of the concepts of van Lier's types of pedagogical interaction (1996) and Fairclough's (1992) analytical properties, such as control, social and power relations, autonomy, monologue, and so on. Moreover, while analyzing the data of this study, all these concepts were categorized and developed into more detailed concepts such as positive informer, negative informer, positive response, and negative response, in order to explain the participants' social roles and linguistic features of their L2 language.

To date, the intersubjective model consists of four units: (a) initiator, (b) continuer, (c) informer (positive response and negative response), and (d) follow-up. In other words, every transaction consisted of these four units representing different social roles within a transaction. However, except the initiator, the other three units were not necessarily present in a transaction, and the order of these three units changed in each transaction because they represented the social roles or contributions rather than a specific sequential structure of an interaction. Following are the examples of the transcribed data that were analyzed according to the intersubjective model.

Example: The units of the intersubjective model

Gabby: Do you have a glass of water?	(Initiator)
Craig: No water.	(Informer)
Gabby: No water?	(Continuer)
Craig: huh.	(Informer)
Gabby: Hm.	(Follow-up)

The above example shows the basic structure of the intersubjective model. In the first line, Gabby's role was an initiator, because she initiated a topic about a glass of water. In the second line, Craig's role was an informer, because he responded to Gabby's initiation. In the third line, Gabby's role was a continuer because she asked for Craig's response to confirm her understanding of what Craig had said. In the fourth line, Craig again played the role of informer by saying, "Huh." Then Gabby provided her follow-up feedback to Craig's response in the last line to indicate her understanding.

Although Craig's response, "Huh" looks like a surprise when it was transcribed into a written language, Craig's response was interpreted as a sign of providing his response to Gabby's question, because the video tape showed that Craig was showing his agreement to Gabby's question through his gesture of nodding. In addition, considering that many Koreans use "Huh" ending with a lower pitch instead of "Yes," there was no ambiguity in the researcher's interpretation of "Huh" as "Yes."

Example: The units of the intersubjective model

Gabby: Uh Do you have [log] on the bottom?	(initiator)
Kevin: Loggie?	(continuer)
Gabby: [Lug]. //[Lug].//	(informer)
Kevin: //[Lug]? // [Lug]?	(continuer)
Gabby: Yeah.	(informer)

The transaction did not always have a predetermined form of initiator-informer-continuer-follow-up. The second example displays a variety of the intersubjective structure. In the first line, Gabby initiated a topic about a rug in the picture. However, Kevin did not understand Gabby because of her incorrect pronunciation of the word, "rug." Thus, in the second line, Kevin played the role of continuer by asking for Gabby's explanation about the word. In the third line, Gabby became an informer by providing her response to Kevin's question. In the fourth line, Kevin played the role of continuer, because he still did not understand Gabby's utterance. In the last line, Gabby played the role of an informer by providing another response to Kevin.

However, unlike Sinclair and Coulthard's (1975) framework, the intersubjective model is not a full framework explaining the comprehensive structures of interaction, including the boundary exchanges between the two transactions (e.g. "What shall we talk next?") and the procedural exchanges (e.g. a dialogue for planning, introducing, and finalizing). The primary purpose of the intersubjective model is to examine what quality of contribution an individual made in solving a problem related to a specific topic, and to find his or her overall pattern of contribution occurring throughout the entire transaction related to the topic. Therefore, the intersubjectivity model focused only on the discourse pattern of all the topic transactions (episode), and thus the boundary exchanges and the procedural exchanges were not included in the data analysis for the quantitative results.

The following sections will provide more detailed explanations of each unit of the subjective model. The initiator, continuer, informer, and follow-up individuals are discussed.

4.4.1 Initiator

Initiator is the first utterance of a transaction and its purpose was to introduce a new topic to the participants in a group. Therefore, the concept of initiator was developed to reveal the degree of topic control among the participants, and its function was related to the social orientation, not the linguistic orientation. For this reason, the syntactic structure of an initiator varied from a word or a phrase to a long sentence, and the form of an initiator may also vary from a declarative sentence (e.g. I have a pen.) to an interrogative sentence (e.g. Do you have a pen?). In other words, the role of initiator was determined by the actions taken by a participant to establish a new transaction, not by the syntactic structure or form.

However, the form of an initiator influenced the role of the next utterance. For example, when the initiator took the form of declarative sentence, the next informer was classified as a positive informer. When the initiator took the form of interrogative sentence, the next informer was classified as a positive response or a negative response. A more detailed explanation will be given in the section of informer within this chapter.

Initiators were divided into two types: discussed initiator and un-discussed initiator. Discussed initiator was the one who attracted an interaction and un-discussed initiator was the one who did not attract an interaction. In other words, an initiator was considered as a discussed initiator when the next speaker responded to the first speaker's initiation. On the other hand, the un-discussed initiator took place when nobody responded to the initiator. The concepts of discussed initiator and un-discussed initiator explained the degree of interactivity in the L2 discussion. The following is a sample of a CMC interaction that shows the difference between a discussed initiator and an un-discussed initiator.

Example: An example of Un-discussed initiator and Discussed initiator
Note: (1) A: Participant A; (2) B: Participant B; (3) C: Participant C

A: there is a pan on the oven.	(Un-discussed initiator)
B: and the man has a belt?	(Discussed initiator)
C: yes, white one.	(Informer)

The first utterance by Participant A was an un-discussed initiator because it was not responded for a further discussion. However, Participant B's initiation about a belt was a discussed initiator because the topic was further discussed by Participant C.

4.4.2 Continuer

Continuers were the utterances that directly asked for the other's response. Thus, most continuers were interrogative sentences. The concept of continuers was created from Fairclough's (1992) notion of formulation, but it was expanded to explain the pedagogic discourses that can be authoritative or explorative according to the nature of the classroom interaction and the relationship among the participants.

Whereas Fairclough's notion of formulation was only specifically related to the speaker's intention to narrow the gaps in understanding by suggesting a formulation about what has been said, the concept of continuers also included the speaker's intention to invite the listener into a shared intersubjective space. In other words, continuers not only played the role of a bridge that linked the gaps of misunderstanding by asking the other interlocutors to explain and elaborate what they had said but also facilitated an exchange by actively creating relevant questions to invite the others to make a contribution to the ongoing interaction. In this sense, the concept of continuer was not limited to the role of narrowing the gaps of misunderstanding but played an autonomous role in creating a dynamic interaction and actively leading the participants to engage in negotiations for the purpose of ongoing interaction.

Continuers were largely classified into two types: negotiation continuers and general continuers. Negotiation continuers referred to all the continuers occurring while the participants were engaging in the negotiation of meaning. Using a specific terminology borrowed from the notion of negotiation of meaning in SLA, negotiation continuers were applied to the "indicators" in the sequence of negotiation of meaning.

In other words, negotiation continuers were the continuers used when the listeners signaled a non-understanding, a partial-understanding, or a misunderstanding about what the speaker said.

For the types of negotiation continuers, Varonis and Gass (1985) categorized seven types: 1) explicit indication of non-understanding; 2) echo word or phrase from previous utterance; 3) non-verbal response; 4) summary; 5) surprise reaction; 6) inappropriate response; 7) and overt correction. However, categorizing the negotiation continuers according to these types was unclear because of the vague boundaries among them. The difficulty of coding the types was mostly derived from the various speaking styles of the individuals. The different speaking and writing style of each individual often made it difficult to classify the types of negotiation continuers, so an utterance coded in one specific category might also be coded in a different category by a different researcher.

For my research, I decided to divide the category of negotiation continuers into two types: echo and the others. Echo is the negotiation continuer who repeated the previous utterance. There are two reasons why echo was chosen as a separate category from the other types of negotiation continuers. The first reason was that echo had a clear boundary from the other negotiation continuer types. Thus, it was uncomplicated to classify it from the others. The second reason was that echo had a distinctive characteristic unlike the other negotiation continuers. Interestingly, echo appeared most frequently among the negotiation continuers in FTF interactions but rarely occurred in CMC interactions.

Example: An example of Echo
Note: (1) A: Participant A; (2) B: Participant B

A: No water.
B: No water? (Echo)

General continuers implied all the continuers except the negotiation continuers. Although at least five types of general continuers appeared in my transcribed data, I decided not to classify them, because the classification was also confounded by the influence of individual styles of speaking and writing. However, the five types included the following: questioning (asking for an information), calling ("Sara!"), asking for short feedback ("It's OK?","Right?"), self-questioning, persuasion ("How about?"), and so on.

4.4.3 Informer

Informer refers to the response to the previous utterance. The concept of informer is similar to Sinclair and Coulthard's notion of response in their IRF model in the way that it was a kind of response toward the previous speaker's initiation. However, the concept of informer is different in comparison with Sinclair and Coulthard's notion in the way that it embraced all the related responses under one topic, which is unlike the IRF model that may have several exchanges under one topic and where each exchange has the three components in its structure of initiation, response, and feedback. Therefore, informers in the intersubjective model included all the related responses under one topic, which would have often been considered as initiators in the IRF model; however, in this study the purpose was to show how the utterances under one topic were connected to each other rather than divide them as a totally different exchange structure.

Informers were then categorized into several types to reveal the participants' linguistic complexity, their social spontaneity, and interactivity. Informers were first classified by their interactivity. When speakers made responses that corresponded to their own previous utterances rather than the others' or when speakers kept making the utterances without attending to the others' utterances, these utterances were categorized as negative informer (NI). The high rate of NI showed that the talk was closer to one-directional and monologue, rather than conversational.

Example: An example of Negative informer (NI)

Craig: And can you tell me the nearest Safeway?
Kevin: you had better take a taxi.
Kevin: it just joke. take no 16 bus.
Craig: We don't have any car, so I should use public transportations. (NI)
Craig: I need to buy some groceries and foods for my members. (NI)

In the above example, Craig initiated a topic about the location of the nearest supermarket. In the second line, Kevin suggested taking a taxi to go to a supermarket, and then he explained it was a joke. Kevin suggested that Craig take the bus of the number 16 in the third line. However, Craig's utterances in the next two lines were not related to Kevin's response. His utterances were rather related to his previous utterance. Therefore, Craig's last two lines were counted as NI.

All the informers except NI were again classified by the participants' spontaneity. When the informer was a spontaneous one that was not elicited by a continuer or a question, the informer was categorized as a positive informer (PI). When the initiator had the form of declarative sentence, the informer by the next speaker was also categorized as PI. However, when the informer was elicited by a continuer or a question, it was classified as a positive response (PR), because it was a response that was elicited by the previous speaker rather than a voluntary informer. Likewise, when the initiator had the form of an interrogative sentence, the informer was classified as PR because it was elicited by the previous speaker's initiating question.

The analysis rate of PI and PR showed if the participants' discourses were externally controlled by the other participants or performed by their own regulation. According to van Lier's (1996) interactional features, the participants' motivation, attention, and participation tended to be more self-determined as the talk became more conversational. When the students' actions were externally controlled by the teacher or by the other factors, the students tended to have less opportunity to become autonomous persons who were in charge of their own learning.

Lastly, a specific group of simple words, phrases, and sentences that appeared repeatedly over the whole activity was selected and categorized as negative response (NR), and were excluded from PI and PR groups. According to Skehan (1998), L2 learners developed both an exemplar-based system and a rule-based system of knowledge. An exemplar-based system involved discrete lexical items and ready-made formulaic chunks of language, while a rule-based system of knowledge involved the abstract knowledge that required more syntactic processing and complexity (Ellis, 2000). Therefore, the purpose of making a category of NR was to examine what factors and what environments prompted the L2 learners to produce simple and formulaic language while they engaged in triad group activities.

Negative responses comprised four types of utterances. The first type was the repetition of the previous utterance. The second type was the simple responses such as "Yes," "No," "OK," "I think so," "I know," "Right," "Sure," and "Hm." The third type of negative response was the category of "I have." The examples of this type were "I have (noun)," "I have one," "There is (noun)," "I can see (noun)," and "I can see one." The fourth type of "negative response" was the category of "I don't have." The examples were "I don't have any (noun)," "I don't have one," "I can see no (noun)," "I can't see any (noun)," "There is no (noun)," "Nothing," "Not (noun)," and "None." These NRs were chosen because they were composed of simple responses that did not require a high level of English skill. The total diagram of NI, PI, PR, and NR is shown in Table 2.

Example: An example of Positive informer (PI) and Negative response (NR)

Gabby: uh She [taid] her hair. (Initiator)
Craig: With a ribbon. (PI)
Gabby: With a ribbon? (Continuer)
Craig: Yes. Ribbon. (NR)

In the above example, Gabby initiated a topic about a girl's hair in the picture. In the second line, Craig played the role of PI by voluntarily adding more information about the ribbon in the girl's hair. When Gabby asked Craig about the ribbon in the third line, Craig provided a short response, saying "Yes" and repeating the previous word, "ribbon." For this reason, Craig's responses were classified as NR.

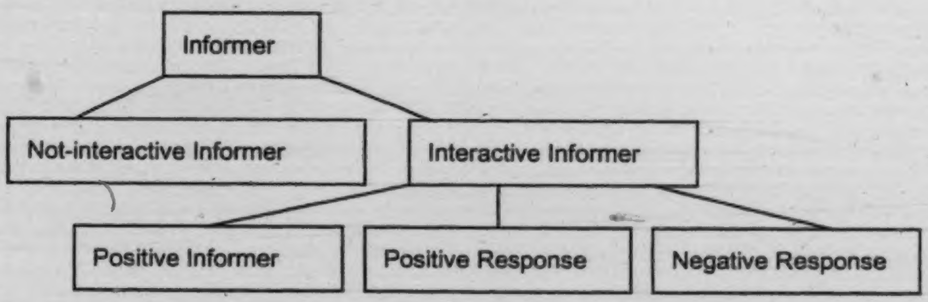
Example: An example of Positive response (PR) and Negative response (NR)

L1 Gabby: His head is bald. (Initiator)
L2 Craig: bald? (Continuer)
L3 Gabby: bald. (NR)
L4 Craig: Not bald (NR)
L5 Gabby: Not bald? Do you have many hairs? (Continuer)
L6 Craig: Yeah. (NR)
L7 Gabby: Really? (Continuer)
L8 Kevin: A little bald. (PR)

In the second example, Gabby initiated a topic about a bald man. When Craig asked Gabby to confirm his understanding, Gabby provided NR in the third line by repeating Craig's previous utterance. Although Craig voluntarily provided his response in the fourth line, he used formulaic language by adding only "not" to the previous word, 'bald.' Thus, his response was counted as NR. When Gabby asked Craig again to confirm her understanding in the fifth line, Craig again provided NR, by saying "Yeah." However, in the eighth line, Kevin provided a little different information toward Gabby's questions by adding a new word, "little." Thus, Kevin's response was counted as PR.

In short, Table 2 shows the total diagram of NI, PI, PR, and NR that were explained in the above. As shown in the diagram, Informers were first categorized into Not-interactive informer (NI) and Interactive Informer according to the participants' interactivity. Then, Interactive Informer was categorized into Positive Informer (PI), Positive Response (PR), and Negative Response (NR) according to the participants' linguistic complexity and their social spontaneity.

Table 2. The Total Diagram of NI, PI, PR, and NR



4.4.4 Follow-up

Follow-up refers to a simple response or an evaluative response to the previous informer. Follow-ups usually consist of several types of utterances. One type of follow-up indicated an agreement or an understanding. The examples were the repetition of the previous utterance, “Yes,” “Right,” “That’s right,” “OK,” and “I see.” The second type of follow-up was emotional expressions, such as “Oh!” “Wow!” or laughter. The third type of follow-up was the indication of the differences. For example, the participants indicated their differences by saying, “It’s different.” The fourth type of follow-up was related to the evaluative expressions on the previous utterances; for example, comments such as “Interesting!”,” It was a good decision”,” You are a brave man!” belong to these types of follow-up. Followings are examples of each type of follow-up.

Example: An example of Follow-up 1

Gabby: He has a dot pants. Dotty //pants.// (Initiator)
Kevin: //Dot.// Yes. Dotty pants. (F)
Gabby: Yeah. (F)

The above example shows that the follow-up indicated an agreement and understanding. When Gabby initiated a topic about dotty pants, Kevin provided his follow-up and indicated his understanding to Gabby in the second line. Then, Gabby also provided her follow-up in the third line to show she agreed with Kevin's understanding.

Example: An example of Follow-up 2

Jane: what kind of disease made you come here? (Initiator)
Larry : I just came here to check up my health . (PR)
Larry : I used to checked every year. (PI)
Heather: oh, good for you. (F)
Jane: you look healthy. (F)

The second example shows that the follow-up contained evaluative expressions. Jane and Larry talked about a health check-up, and Larry explained that he got a check-up every year. In the fourth and fifth lines, Heather evaluated Larry's regular check-up as a good habit, and Jane provided positive feedback.

4.5 Data analysis

All the transcription data contained 24 group interactions, because each six-participant group conducted four activities: two activities in FTF and two activities in CMC. However, while examining the transcribed data, it was found that many FTF interactions did not keep the three-party interaction mode in the later part of their interactions. The primary reason for not keeping the three-party interaction mode was the instructor's involvement in the group interaction in adjusting the time to complete the activities. Some groups completed their activities early and were simply reviewing the topics that they had already discussed.

Because the original purpose of the current research was to compare the group interactional patterns that took place over one hour, each activity was supposed to be undertaken for one hour. However, different group dynamics determined the time that was required to complete the task, and the actual time that was taken to finish an activity varied from 20 minutes to one hour, depending on the group. Some groups completed their activities early and claimed that they had nothing left to talk about with each other, while some other groups needed the full hour to complete an activity.

At first, the instructor explained to the groups that they needed to continue their discussion for one hour, even though they completed their tasks early. However, once the groups completed their tasks, many of them lost interest in their tasks and engaged in off-task behaviors, such as sleeping, leaving the place, or chatting with others in their native language. Some groups that continued their discussion after they completed their task displayed an unnatural type of interaction, because they only engaged in review discussion of what they had already found from their pictures.

Although the instructor was initially planning to watch over the group work without joining the group interaction, she felt she needed to be involved in their interactions in order to encourage the groups who had finished the activity early to talk more. She involved herself in some groups' discussions and encouraged them to keep discussing their pictures. However, her intervention resulted in an unnatural interaction pattern in which the talk occurred only between the instructor and a participant rather than among the three participants. For example, the instructor tended to provide a long explanation and elaboration when asking a question; usually, only one participant provided a short response showing one individual's agreement or disagreement. Therefore, the prototype of each interaction changed from the juncture where the teacher intervened.

In order to remove such altered portions from the data and establish an equal sense of group work organization, I decided to have the participants self-report on the completion of their tasks, and I used the transcripts that covered only to the point where the groups claimed that they completed their activities, so that each group's dynamic progression to accomplish a task could be explored without being influenced by other factors such as time or the instructor's intervention. Self-reporting was an appropriate approach at that time for the purpose of this study which was to examine the natural interactions among the participants.

In addition, I also excluded the opening, closing, off-topic exchanges, and boundary exchanges that may have confounded the overall pattern of each interaction. Because these exchanges have different discourse purposes for a discussion among the participants, the discourse patterns of these exchanges were quite different from the ones of on-topic exchanges. For example, the discourses of opening, closing, off-topic exchanges, and boundary exchanges tended to encourage an explanation of one person dominating the exchanges, and their discourse patterns were quite different from the discourse patterns of on-topic exchanges encouraging an interaction among the participants. Thus, in order to look at the general discourse patterns of the participants engaging in an interaction, opening, closing, off-topic exchanges, and boundary exchanges were excluded from the quantitative data. However, these exchanges were examined qualitatively in order to investigate if these exchanges affected the quality of L2 discourses in the two communication modes.

After selecting the transcripts for quantitative data analysis, all the utterances in the selected transcriptions were coded as units and types, employing the intersubjective model that was explained in the previous sections. The process of coding all the transcripts was followed by the procedure of counting all the utterances (discussed initiator, not-discussed initiator, continuer, negative response, positive response, positive informer, follow-up, and all the types of continuer (negotiation continuer, echo and the other negotiation continuers) in each activity. Therefore, eight tables were produced for each group: four tables for the units and four tables for the continuer types. The following were Group 1's tables that showed the number of each unit that was counted in each activity. In other words, all the numbers in each table indicated the frequency of each unit that occurred in each activity.

Table 3. The Frequency of Each Unit of Group 1 Information Gap Activity in FTF

Note: (1) A: Participant A; (2) B: Participant B; (3) C: Participant C.

Nickname	D Initiator	N Initiator	NI	Continuer	PI	PR	NR	F	Total
A	28	1	0	87	25	22	42	61	266
B	36	1	0	50	13	34	40	51	225
C	12	0	0	18	7	16	35	14	102
Total	76	2	0	155	45	72	114	129	593

Table 4. The Frequency of Each Unit of Group 1 FTF Information Gap Activity in Percentages

Note: (1) A: Participant A; (2) B: Participant B; (3) C: Participant C.

Nickname	D Initiator	N Initiator	NI	Continuer	PI	PR	NR	F	Total
A	4.72	0.16	0	14.67	4.21	3.70	7.08	10.27	44.81
B	6.07	0.16	0	8.43	2.19	5.73	6.74	8.59	37.91
C	2.02	0	0	3.03	1.18	2.69	5.90	2.35	17.17
Total	12.81	0.32	0	26.13	7.58	12.12	19.72	21.21	

The frequency of each unit was expressed as a percentage of the number of utterances that occurred in each activity. Percentages were calculated to show how much each person contributed to the interaction. Table 4 shows the percentage of each unit that was produced by Group 1 in FTF information gap activity.

Each continuer type was also counted in each activity and recorded in a table. Table 5 shows the number of each Continuer type that was counted in each activity.

Table 5. The Number of Each Continuer Type in Group 1 FTF Information Gap Activity

Note: (1) A: Participant A; (2) B: Participant B; (3) C: Participant C.

Nickname	Negotiation Continuers (NC)			General Continuers	Total
	Echo	Other NC	Total		
A	37	22	59	28	87
B	11	12	23	27	50
C	7	9	16	2	18
Total	55	43	98	57	155

To calculate the percentage of each unit out of the total utterances in each activity, each counted the number of negotiation continuers, and general continuers were multiplied by a hundred and divided by the number of the whole Continuers in each activity. Calculated percentages of the continuer types show how much each continuer type contributed to the total number of continuers uttered in each activity. Group 1's calculated percentage in FTF information gap activity is shown in the Table 6.

Table 6. Group1's Continuers in FTF Information Gap Activity in Percentages

Note: (1) A: Participant A; (2) B: Participant B; (3) C: Participant C.

Nickname	Negotiation Continuers (NC)			General Continuers	Total
	Echo	Other NC	Total		
A	23.87	14.19	38.06	18.06	56.12
B	7.09	7.74	14.83	17.41	32.24
C	4.51	5.8	10.32	1.29	11.6
Total	35.47	27.73	63.21	36.76	

All the calculated percentages of the units and the types of an activity were compared across the groups, the activities, and the communication modes in order to examine the changing discourse patterns of each individual. However, because the number of participants in a group was small, inferential statistics could not be used to compare the results among the groups. Instead, the detailed inspection of all the transcripts served as a good stepping-stone for understanding the discourse patterns which were exhibited by the calculated percentages of the tables.

Chapter V

Findings of Different L2 Discourses in FTF and CMC

The main research focus of this study, as outlined in Chapter 1, was to compare the L2 discourse in FTF and CMC. In particular, this study focused on the L2 discourses that were produced during information gap and role play activities, which are common SL (Second Language) classroom tasks. These activities have traditionally tended to be carried out in FTF mode in classrooms, and little research has investigated how they differ quantitatively and qualitatively with respect to the language produced when they were carried out in a CMC modality.

Therefore, the purpose of this chapter is to use the Intersubjective framework (See the Intersubjective framework presented in Chapter 4) in order to examine differences in L2 discourses in the FTF versus CMC modes. Both the quantitative and qualitative results of this study demonstrated that L2 discourses were different in the two communication modes in some important respects, such as the amount of repair negotiation, the quality of language the participants used, and the discourse patterns. Through the examination of qualitative results, this chapter provides more detailed information on how L2 discourses differed specifically in the two environments.

5.1 The Amount of Repair Negotiation in FTF and CMC

Since negotiated interaction has been one of the main research interests in recent CALL studies, this study first compared the amount of repair negotiation in FTF and CMC. As previously explained, Negotiation continuers serve as 'indicators' of repair negotiation, a concept clarified by Varonis and Gass (1985). Varonis and Gass argued that repair occurs when there is an incomplete understanding and it takes the form of negotiation of meaning. When incomplete understanding occurs, a request for clarification or confirmation typically emerges, and this is the 'indicator' that signals the request. In this sense, Negotiation continuers ('indicators') play a pivotal function in provoking negotiation of meaning.

In order to examine the amount of repair negotiation that took place in each activity, all the Negotiation continuers were counted in each activity and were changed into the ratio out of all the discourse units contributed by the three participants in each activity (see the Chapter 4 for the explanation of the discourse units of the Intersubjective model). Since Negotiation continuer was one component out of the four stage sequences of repair negotiation, the percentage of Negotiation continuers increased in proportion to the percentage of repair negotiation in an activity. In other words, when the percentage of Negotiation continuers increased, this indicates that the percentage of repair negotiation increased in proportion. Therefore, through comparison of the percentage of Negotiation continuers in the activities, the percentage of repair negotiation in an activity could be relatively compared to the percentage of repair negotiation in another activity.

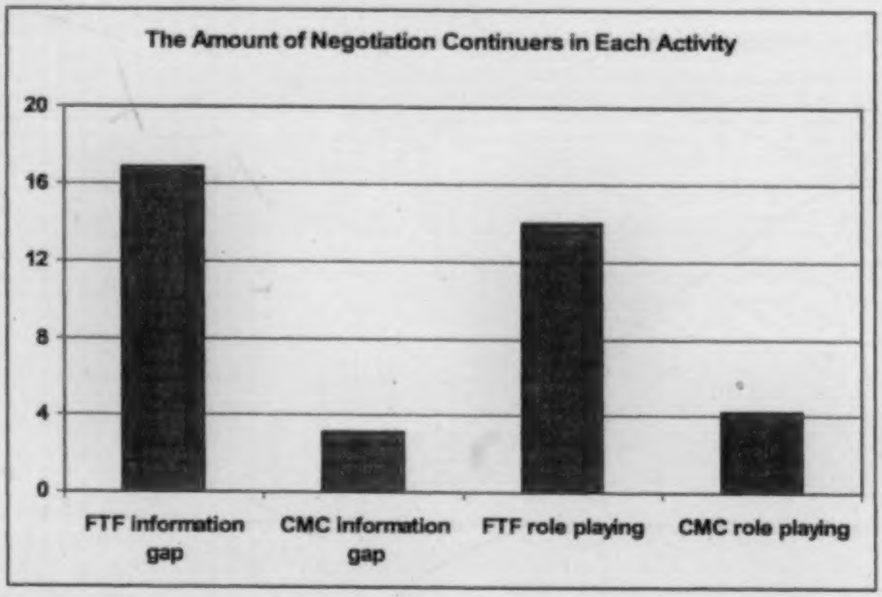


Figure 3. The Percentage of Negotiation Continuers in Each Activity

Figure 3 shows the percentage of Negotiation continuers that took place in each activity conducted by each group. The word in the X-axis indicates the activities, the number on the Y axis indicates the percentage of the discourse units, and each bar indicates the percentage of Negotiation continuers. As indicated in the graph, a much higher percentage of Negotiation Continuers were found in the FTF sessions than in the CMC sessions, and a slightly higher percentage of Negotiation Continuers occurred in the information gap activities than in the role playing activities in the FTF sessions. However, the CMC sessions did not show much difference in the two activities.

In order to investigate how Negotiation continuers affect the interaction within each activity in FTF and CMC, the types of Negotiation continuers were examined. Negotiation continuers were originally categorized by Varonis and Gass (1985) into seven types: 1) explicit indication of non-understanding; 2) Echo word or phrase from previous utterance; 3) Non-verbal response; 4) Summary; 5) Surprise reaction; 6) Inappropriate response; and 7) Overt correction. However, the analysis presented here differentiates only between Echo and all other Negotiation continuers, because the examination of the transcript showed that Echo was the most frequently emerging Negotiation continuer. Thus, in this research, the Negotiation continuers were categorized into only two types: 1) Echo and 2) other Negotiation continuers. Figure 4 shows the ratios of Echo and the other Negotiation continuers in each activity.

As shown in Figure 4 and Figure 5, Echo took up a very large portion among all the Negotiation continuers in FTF sessions. In particular, the percentage of Echo was very high in the information gap activities and the average percentage of Echo of six groups was 69.5% out of all the Negotiation continuers in the information gap activities and 56.12% in the role playing activities.

On the other hand, the percentage of Echo was very small in all CMC sessions. Figure 6 shows the ratio of each Continuer type out of all the discourse units in each activity. The graph shows that Echo took up a large portion of the Continuers in the FTF interactions but very little in both of the CMC activities.

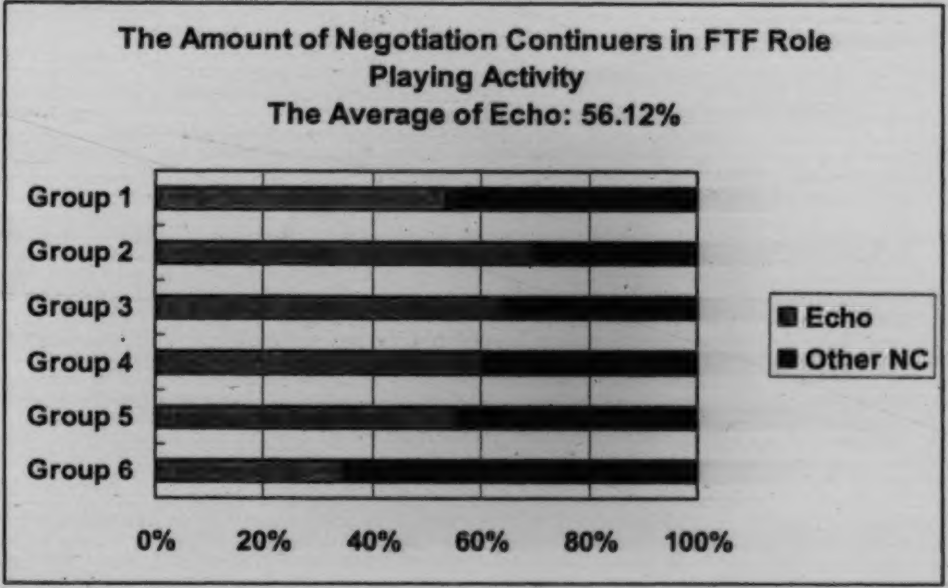


Figure 4. The Percentage of Each Negotiation Continuer in FTF Information Gap Activity

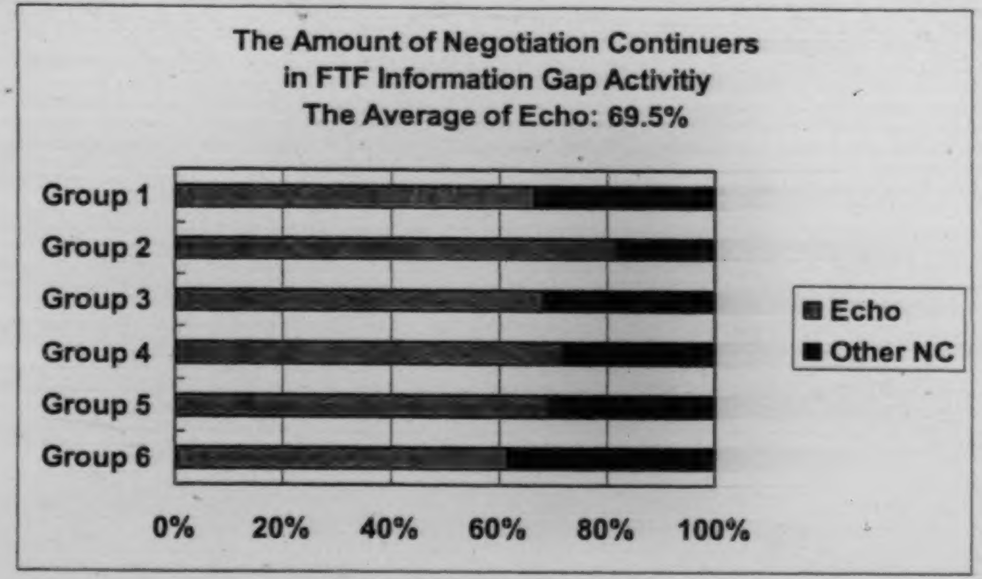


Figure 5. The Percentage of Each Negotiation Continuer in FTF Role Playing Activity

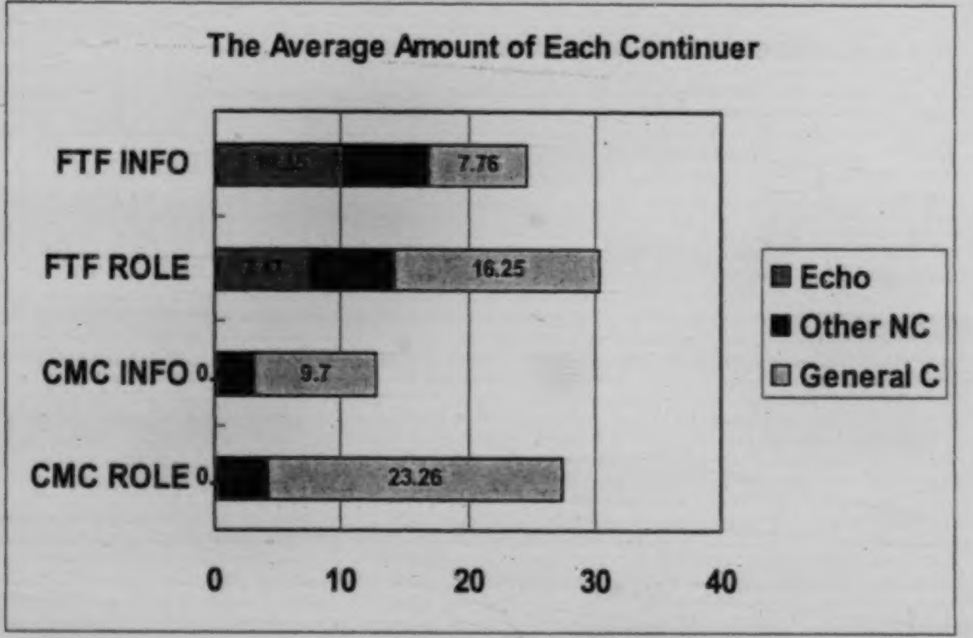


Figure 6. The Average Percentage of Each Continuer of All the Discourse Units in Each Activity

The above graph clearly indicates that one of the major reasons for the decreased Negotiation continuers in CMC was the disappearance of Echo in the CMC interactions. Although Echo took up the highest percentage of Negotiation continuers in FTF activities, most of the Echo disappeared in the CMC sessions. Thus, the lack of Echo resulted in a low percentage of Negotiation continuers in CMC.

The qualitative data provided more detailed information as to why Echo was much less prevalent in CMC. The transcript data showed that Echo was usually used in the FTF activities for requesting a confirmation (as opposed to requesting a clarification). In the FTF sessions, listeners often needed to request a confirmation to check if they heard something correctly. However, in CMC sessions, the use of Echo was not needed because there was a concrete trace of what was said on the computer log. The receiver of a message could simply go back and reread the message without needing to ask the sender to confirm the utterance. The following example is an excerpt from the transcript of Group 2's FTF information gap activity, and it illustrates how Echo was used to get a confirmation about the previous speaker's utterance.

Example: Excerpt from the transcript of Group 2's FTF information gap activity

L1 Sandy: Uh in the left side of the bus, Uh..I have the sign that written in uh like

seniors only.
L2 Harry: Only?
L3 Sandy: Only.
L4 Harry: On. Ah. Not written?
L5 Sandy: Not written.
L6 Harry: This is Uh. + in my picture, seniors.
L7 Sandy: Seniors?
L8 Harry: Not only.
L9 Sandy: Not only? Oh…//It's different.// //yeah.//
L10 Harry: //Seniors.// //That// that's difference.

In the above example, Harry used indicators in L2 and L4, and Sandy also used indicators in L7 and L9. All the indicators except the one in L4 were Echoes, and all three Echoes were used to confirm whether the understanding of the previous speaker's utterance was correct.

5.1.1 The Percentage of General Continuers

Another interesting fact about the participants' negotiated interaction is that the percentage of General continuers increased in the FTF role playing activity and the CMC role playing activity, even though the percentage of Negotiation continuers decreased (see Figure 6). As a result, the total percentage of Continuers became higher in the FTF role playing activity than the FTF information gap activity, and the total percentage of Continuers in the CMC role playing activity remained similar with the total percentage of Continuers in the FTF information gap activity, even though the percentage of Echo was almost none in CMC.

This implies that different types of negotiations appeared more frequently in the FTF role playing activity and the CMC role playing activity, when the percentage of Negotiation continuers decreased. Therefore, even though the percentage of repair negotiation decreased, the participants' interactivity did not decrease, and different types of negotiations were encouraged more in the FTF role playing activity and the CMC role playing activity.

However, the CMC information gap activity showed a very different picture from the results of the other activities. The percentage of Continuers in the CMC information gap activity greatly decreased, unlike the other activities, which maintained a similar percentage of Continuers. Since the CMC sessions started with the CMC information gap activity, the participants' unfamiliarity with the CMC activities seemed to have affected the percentage of Continuers in the CMC information gap activity. Because of the lack of a turn taking system in CMC, the participants often initiated their topics at the same time; as a result, they had difficulty in exchanging their messages, especially at the initial phase of the activity. The messages in the CMC information gap activity were often not interactive, and this seems to have resulted in a lower total percentage of Continuers.

5.2 The Quality of L2 Discourses in FTF and CMC

To examine the quality of L2 discourse, all the responses were categorized into Positive informer (PI), Positive response (PR), and Negative response (NR) according to the Intersubjective model which was developed for this research. Briefly speaking, PI represents a voluntary response that was not elicited by the previous speaker, and PR represents a response that was elicited by the previous speaker. NR is a simple formulaic discourse that does not require the participants to display a high level of linguistic skill, since it typically involves mere repetition or the use of memorized chunks of language. There were four types of NR: 1) a repetition of the previous words, phrases, or sentences; 2) "I have" type; 3) "I don't have" type; and 4) "Yes," "No" "OK" type (see the Chapter 4 for more explanation).

For the purpose of this study, the frequencies of NR, PI, and PR in each activity were counted and calculated into the ratio out of all the discourse units of an activity. Then, the percentages of PI and PR were combined to represent the productive language use, and NR represented the formulaic language use involving unanalyzed chunks of words or routine phrases.

As shown in Table 7, there was a great difference in the quality of L2 discourse in CMC and FTF. For the information gap activity, all the groups except Group 3 had a higher percentage of PI and PR in CMC than FTF. For Group 3, the percentage of PI and PR was similar both in CMC and FTF, being slightly higher in FTF with a difference of only 0.09% out of all the discourse units. The average percentage of PI and PR in the information gap activities of all the groups was 23.36% in FTF and 27.43% in CMC. In other words, CMC had 4.07% higher percentage of PI and PR than FTF in the information gap activities.

Table 7. The Total Percentage of PI and PR of Each Group in Each Activity

The percentage of PI+PR	FTF Information gap	CMC Information gap	FTF Role playing	CMC Role playing
Group 1	19.66	24.65	27.84	23.33
Group 2	25.34	25.84	35.44	30.87
Group 3	25.86	25.77	32.94	32.8
Group 4	18	28.36	38.6	40.51
Group 5	26.51	32.65	30.06	32.95
Group 6	24.84	27.33	33.43	47.91
Average	23.36	27.43	33.05	34.72

For the role playing activities, the difference of discourse quality between CMC and FTF was not as great as for the information gap activities. Groups 1, 2, and 3 all had higher percentages of PI and PR in FTF, while Groups 4, 5, and 6 had higher percentages of PI and PR in CMC. However, the average percentage of PI and PR of all the groups was 33.05% in FTF and 34.72% in CMC for the role playing activities, having a higher percentage of CMC with the difference of 1.67% out of all the discourse units.

The qualitative results demonstrated that the higher percentage of PI and PR in CMC was mainly due to the intersubjective gap of CMC that was bigger than that of FTF. Traditionally, intersubjectivity has been defined as a state of overlapping individual subjectivities (Rommetveit, 1974). Thus, "Intersubjective gap", in this study, refers to the gap for understanding between the communicative moves in which a speaker presupposes or takes for granted something that has not yet been discussed by the time of the move. The lack of visual cues in CMC seemed to widen the intersubjective gap among the participants. In CMC, when a participant responded without providing any contextual information, the other participants were often confused. For example, as shown in the following dialogue from Group 6's information gap activity, when Larry responded, "No" in Line 3, Heather was not sure if Larry responded in relation to Heather's topic (Line 1) or Jane's topic (Line 2). Thus, she asked Larry to provide a clarification about his response in Line 5.

Example: Excerpt from the transcript of Group 6's CMC information gap activity

L1 Heather: right side of the picture there's an old man
L2 Jane: There is a desk in front of the nurse
L3 Larry: No
L4 Heather: yes, right
L5 Heather: what is no?

For this reason, the CMC participants tended to add more contextual information to their messages in order to narrow the intersubjective gap among them in CMC, while the FTF participants were often able to deliver their meanings only with short and simple discourses. Therefore, the intersubjective gap of CMC seems to have contributed to the encouragement of L2 participants to use productive discourses more frequently. The following conversation (Example 1) shows an example of how the CMC participants added more contextual information to their messages. When Kevin asked about a cigarette, Gabby responded with more contextual information about a hand (Line 2), and Craig also responded with new information that the cigarette was burning (Line 4). On the other hand, in FTF, such contextual information was not usually added to the response messages when the information between the speaker and the respondent was the same, as shown in the example 2.

Example 1: Excerpt from the transcript of Group 1's CMC information gap activity

L1 Kevin: do you see the cigarrette?
L2 Gabby: Ya, hut in mine I can see a hand with a ciga.
L3 Kevin: yes, right
L4 Craig: Yes, I can see a right hand with a cigar burning with smokes
L5 Gabby: Yes

Example 2: Excerpt from the transcript of Group 1's FTF information gap activity

Gabby: uh She tide her [he] hair.
Craig: With a ribbon.
Gabby: With a ribbon?
Kevin: //Yes. Ribbon.//
Gabby: //Yeah. Ribbon. Ribbon.// OK.
Kevin: Wearing a dotty's cloth.
Gabby: hm Dotty's cloth.
Kevin: Striped pants.
Craig: //[Straipst] pants//. OK.
Gabby: //Striped pants.//

This study also observed a practice effect that affected the quality of L2 discourses. The average percentages of PI and PR (productive discourse) for the two sets of groups were calculated in four activities to examine the practice effect of FTF on each activity (see Table 8). As expected, higher average percentages of PI and PR were found in the groups that had practiced the activities through FTF. Groups 4, 5, and 6, which had practiced the information gap activity through FTF, obtained 29.45% of the discourse units in the CMC information gap activities, while Groups 1, 2, and 3, which had not practiced the activity obtained 25.42%. Even in the CMC role playing activities, Groups 4, 5, and 6 also obtained 40.46%, much higher percentages of PI and PR than did Groups 1, 2, and 3, which obtained only 29%.

Table 8. The Average Amount of PI and PR in Each Activity for Two Sets of Groups in Percentages

	FTF Information gap	FTF Role playing	CMC Information gap	CMC Role playing
Groups that started with CMC (G1, 2, 3)	23.62	32.07	25.42	29
Groups that started with FTF (G4, 5, 6)	23.12	34.03	29.45	40.46

The practice effect of CMC was also investigated. However, unlike the result of the practice effect of FTF, the discourse quality of L2 participants who had practiced the activity through CMC did not show much difference with respect to discourse quality compared to participants who had not practiced the activity. Groups 1, 2, and 3, who had practiced the activity through CMC, obtained 23.62% on average out of all the discourse units in the information gap activity, while Groups 4, 5, and 6 ,which had not practiced the activity, obtained 23.12% on average. For the FTF role playing activity, Groups 1, 2, and 3 obtained 32.07% on average, while Groups 4, 5, and 6 obtained 34.03% on average. Even though Groups 1, 2, and 3 had practiced the role playing activity through CMC before doing it in FTF, the average percentages of PI and PR were lower than the average percentage of PI and PR of Groups 4, 5, and 6.

The above results indicate that only previous FTF practice affected the quality of L2 discourse, and that previous CMC practice did not affect the quality of L2 discourse. L2 participants seemed to have learned to use more productive discourses through FTF practices. However, for some reasons, L2 participants did not seem to have learned to use more productive discourses through CMC practices.

One possible explanation for this findin[illegible]s that a large intersubjective gap in CMC might have prevented L2 learners from learning to use productive discourses in their next practices. In other words, a large intersubjective gap of CMC might have made it difficult for L2 participants to pick up language skills or communication skills from their CMC experiences and apply them to their next practices. However, in order to provide a more thorough explanation of the phenomenon, more research is needed.

Alternatively, the practice effect on the amount of NR in each activity was also examined. In the same way as the average percentages of PI and PR use were calculated, the average percentages of NR use for two sets of groups were also calculated (see the Table 9). Table 9 shows that Groups 4, 5, and 6, which had practiced the activity through FTF obtained 16.04% on average in the CMC information gap activity, while Groups 1, 2, and 3, which had not practiced the activity, obtained 10.05% on average. In the CMC role playing activity, Groups 4, 5, and 6 obtained 4.44% on average, while Groups 1, 2, and 3 obtained 1.69% on average. The results indicate that the FTF practice affected the amounts of NR in the CMC activities.

Table 9. The Average Rate of NR in Each Activity for Two Sets of Groups in Percentages

	FTF information gap	FTF role playing	CMC information gap	CMC role playing
Groups that started with CMC (G1, 2, 3)	16.31	8.61	10.05	1.69
Groups that started with FTF (G4, 5, 6)	17.52	9.66	16.04	4.44

Nevertheless, the CMC practice still did not affect the amount of NR in the

FTF activities. Groups 1, 2, and 3, which had practiced the activities through CMC, obtained 16.31% on average in the FTF information gap activity, while Groups 4, 5, and 6, which had not practiced the activities, obtained 17.52% on average. For the role playing activity, Groups 1, 2, and 3 also obtained 8.61% in average, while Groups 4, 5, and 6 obtained 9.66% on average. Like the results of PI and PR, FTF practices rather than CMC practices affected the amount of NR in L2 discourses. This result still supports the previous explanation that a large intersubjective gap of CMC seemed to have made it difficult for L2 participants to pick up language skills or communication skills from their CMC experiences and apply them to their next practices.

The percentage of formulaic discourse (represented as NR) in the CMC information gap activity was similar to the percentage of formulaic discourse in the FTF information gap activity for the groups that had practiced the activity, even though the percentage of formulaic discourses of the FTF role playing activity sharply decreased in the CMC role playing activity. The percentage of NR of the groups that had practiced the activities was 16.04% in the CMC information gap activity and 17.52% in the FTF information gap activity, while the percentage of NR of the FTF role playing activity sharply decreased in the CMC role playing activity, reporting

9.66% in the FTF role playing activity and 4.44% in the CMC role playing activity.

The above results indicate that a prior practice of FTF increased the amount of formulaic discourses in the CMC information gap activity as much as the amount of formulaic discourses of the FTF information gap activity, while a prior practice of FTF did not increase the amount of formulaic discourses in the CMC role playing activity. Considering that the amount of NR tended to sharply decrease in all the CMC activities except the CMC information gap activity, the result seems to indicate that the information gap activity tended to encourage L2 participants to learn to use more formulaic discourses as well as more productive discourses in their next practices, while the role playing activity tended to encourage them to learn to use only more productive discourses in their next practices.

The qualitative data also showed how prior practice encouraged L2 participants to use more formulaic discourses as well as more productive discourses in their CMC information gap activity. Due to the lack of the visual cues in CMC, generally the CMC participants tended to have added more contextual information in their messages than the FTF participants, using more productive discourses. However, as shown in the following example, the L2 participants in the CMC information gap activity were also observed to have learned to simplify their conversations after they practiced the activity.

As shown in the following example when one participant described an object, the other two participants simply provided their agreement or disagreement by saying, "Yes," or "No," rather than providing an elaboration in L2, L3, L7, L8, L10, and L11 . By reducing their discourses to the most minimum level and proceduralizing the way of getting information from each other, they were not only able to save their time for typing but also effectively exchange their necessary information in the CMC information gap activity. However, this type of phenomenon was not observed in the CMC role playing activities.

Example: Excerpt from the transcript of Group 6's CMC information gap activity

L1 Heather: momo has envelop?
L2 Larry: yes
L3 Heather: no
L4 Jane: No , she doesn't have envelop
L5 Heather s: the man who his eye is covered is popo
L6 Jane: Popo 's shirt has two kind squares
L7 Heather: yes
L8 Larry: yes
L9 Jane: black and white
L10 Larry: yes
L11 Heather: yes

The above results seems to suggest that prior practice of an activity contributed to the increase of productive discourses in the CMC, but a prior practice of an activity also affected L2 participants to use more formulaic discourses as well in the CMC information gap activity. This finding raises the question of whether practicing goal-oriented activities, such as the information gap activity, may have encouraged the participants to communicate more simply and in a more formulaic manner in order to complete the task efficiently, at the expense of their language development.

5.3 L2 Discourse Patterns in FTF and CMC

This study also compared L2 discourse patterns in FTF and CMC to determine the rates of individual participation as well as individual participants' discourse roles. In order to compare the L2 discourses in FTF and CMC, the rates of all the discourse units of each individual were added to produce the rate of a participant's discourse units in relation to the group's discourse units in an interaction. In other words, the rate of a participant's discourse units implies the amount of a participant's discourse units compared to the amount of the others' discourse units.

The discourse units of all the groups in each activity produced 24 tables. Each table represents each activity within a group, and thus each group has four tables representing the four activities: FTF information gap activity, CMC information gap activity, FTF role playing activity, and CMC role playing activity. Table 10 is an example of the tables and it represents Group 1's FTF information gap activity. The table displays not only the rates of each discourse unit of a participant, including Discussed initiation (DI), Not-discussed initiation (N IN), Negative informer (NI), Continuer (CON), Positive informer (PI), Positive response (PR), Negative response (NR), Follow-ups (F) in an activity (see the Chapter 4 for more detailed explanation on each unit), but also shows the total rate of each participant's discourse units compared to the total rates of the others' discourse units in an activity. In other words, the tables provide diverse information about what discourse units an individual used and with what frequency in each activity, compared to the other two participants. The tables also show how a group discourse pattern in an activity is different from its group discourse pattern in a different activity as well as from another group discourse pattern in the same activity.

For example, Table 10 shows that Participant A was the person who initiated most (4.71% of Discussed initiator and 0.16% of Not discussed initiation) and elicited an interaction most (14.64% of Continuer). Both Participant A and Participant B used the same amount of productive discourses (7.9% of PI and PR). Participant A also used formulaic discourses the most (7.07% of NR) and Participant A also provided the most feedback (10.26% of F). The table also reports that Participant A occupied most of the conversation (44.74% of the group discourse).

Table 10. Group 1's Each Discourse Unit in FTF Information Gap Activity in Percentages

	D IN	N IN	NI	CON	PI	PR	NR	F	TOTAL
Gabby	4.71	0.16	0	14.64	4.2	3.7	7.07	10.26	44.74
Steve	6.06	0.16	0	8.58	2.18	5.72	6.73	8.58	38.01
Craig	2.02	0	0	3.03	1.17	2.69	5.89	2.34	17.14
TOTAL	12.79	0.32	0	26.25	7.55	12.11	19.69	21.18	

Using the information from the 24 tables, 24 graphs were drawn to see the changes of the group discourse pattern in every activity. Figure 7-a, 7-b, 7-c, and 7-d are Group 1's four activities. Each bar indicates each individual's discourse, and each pattern in a bar represents the rate of a specific discourse unit out of all the discourse units. Therefore, the length of a bar represents the distribution rate of each participant's discourse units compared to the other two participants' discourse units.

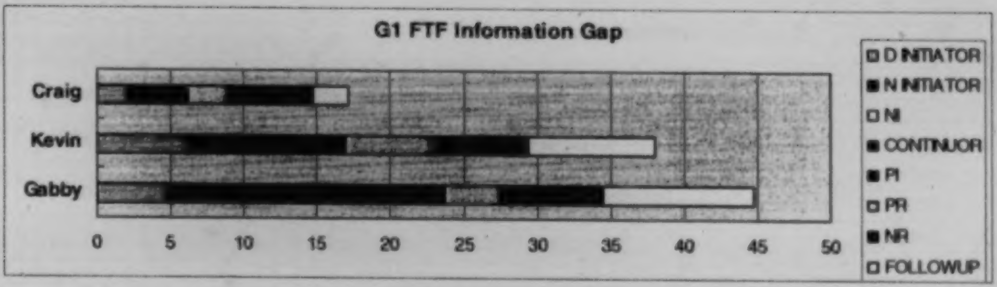


Figure 7-a. Group 1's Discourse Pattern of FTF Information Gap Activity

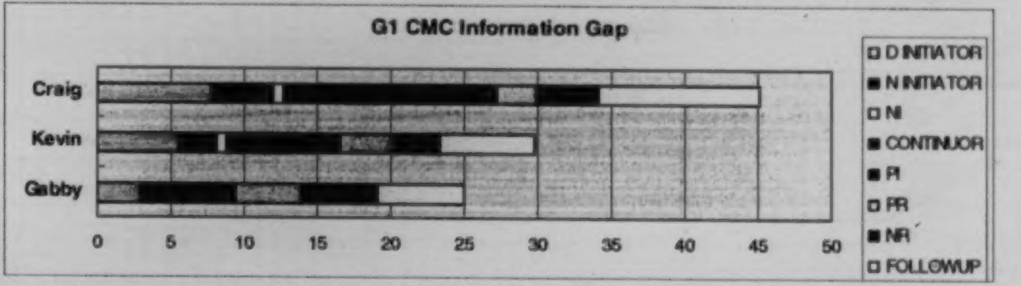


Figure 7-b. Group 1's Discourse Pattern of CMC Information Gap Activity

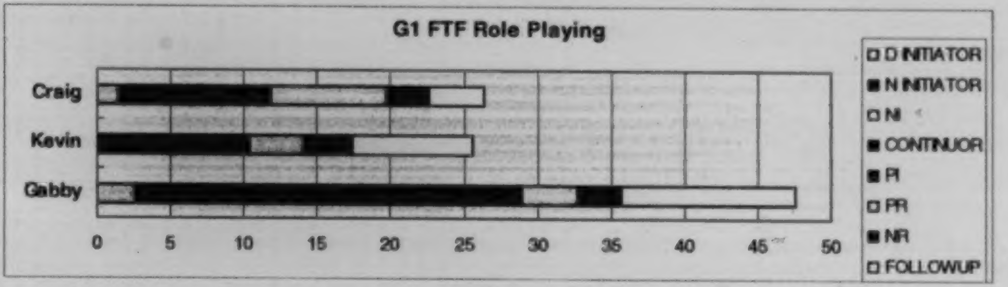


Figure 7-c. Group 1's Discourse Pattern of FTF Role Playing Activity

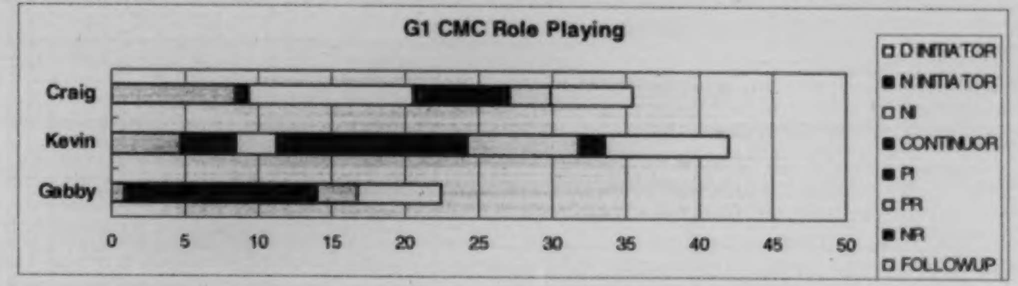


Figure 7-d. Group 1's Discourse Pattern of CMC Role Playing Activity

As shown in the Group 1's four graphs, the group discourse pattern rarely maintained the same shape when the group engaged in a different activity. The graphs revealed that the L2 discourse pattern changed in every activity, and there was no specific pattern or prototype of L2 discourse changes to show any relation with activities regardless of whether they were performed through FTF or CMC. This was also found to be the case with the graphs of the remaining participant groups. The continuous change of L2 discourse patterns seems to indicate that L2 discourse patterns were affected by the joint influence of various factors rather than being influenced singularly by a specific preplanned condition, such as types of activity, the communication modes, or the amount of negotiation.

Chapter VI

Qualitative Findings of the Factors Affecting L2 Discourses

On the basis of the previous results that L2 discourses were different in FTF and CMC, this chapter focuses more on why and how individual L2 discourses changed in the two communication modes. Although the continuous change of L2 discourse pattern in each activity implied that the quality of L2 discourses were not determined by a singular condition that was preplanned by a researcher or an instructor, the examination of the qualitative data still revealed that certain important factors prompted L2 discourses to change in FTF and CMC in specific ways. Some of those factors can be attributed to inherent characteristics of CMC environments, such as the lack of turn taking systems, the lack of visual cues, the different interaction patterns, and the different language skills required in the two different modes. Other factors that also affected the L2 discourses within the two different modalities were not directly attributable to characteristics of the CMC environment. Examples of these other factors were: the quality of negotiations, the participants' discourse roles and identities, and participants' strategies. The purpose of this chapter is to discuss the range of factors that affected the quality of L2 discourses and to explain how these factors were related to changes observed across the two different modalities.

6.1 The Factors of Communication Modes Affecting L2 Discourse in FTF and CMC

FTF and CMC provided the participants very different conditions for their language practices because of their different characteristics. In FTF, the various visual cues, such as gestures, facial expressions, voice tones, and silence could be used as communication resources, while the participants in CMC could depend only on the written messages that were transmitted through the computer networks for their communication. For this reason, the group discourses varied greatly in these two different communication modes. The following sections examine the characteristics of the communication modes that affected the quality of L2 discourses in FTF and CMC. The sections provide specific examples from the data to illustrate differences in the discourse across communication modes. An understanding of these differences will be used in Chapter 7, which describes implications for language teaching and learning.

6.1.1 Turn taking system

One of the most prominent characteristics of the CMC group discourses was the lack of a turn taking system in which anybody could be the next speaker because there was no cue who would be the next speaker. No regulation of the turn taking system in CMC caused several topics to appear simultaneously on the computer screen and, as a result, the participants in CMC tended to initiate a new topic much more frequently than in FTF. Especially when all participants were active, the simultaneous appearance of new initiation occurred more frequently in CMC.

Table 11. The rates of Initiation of all the Groups in each activity reported as percentages.

	FTF information gap	FTF role playing	CMC information gap	CMC role playing
Group 1	13.11	4.08	23.35	18.67
Group 2	8.44	6.93	62.05	16.17
Group 3	7.29	4.32	24.39	14.4
Group 4	9	4.39	14.38	10.79
Group 5	5.75	6.76	18.29	10.45
Group 6	8.69	5.65	25.14	10.81
Average	8.71	5.36	27.93	13.55

As shown in Table 11, the initiation rate of each group was produced by calculating the percentage of initiation out of all the discourse units of each group. The table shows that the initiation rate was accentuated especially in the CMC information gap activity, reporting an average of 27.93% across all the discourse units. The average initiation rates in the other activities were: 13.55% in the CMC role playing activity, 8.71% in the FTF information gap activity, and 5.36% in the FTF role playing activity. In other words, CMC had a higher rate of initiation than FTF did, and the information gap activity encouraged L2 participants to make more initiations than role playing activity did.

The high rate of topic initiation in CMC generally caused several complications among the participants, such as a high speed of interaction, mixed topics and responses, and less feedback. For example, as shown in the transcript excerpt below, Group 2 experienced non-interactive exchanges due to the accentuated initiation rate in the CMC information gap activity. Among the nine topics appearing in the excerpt, only Sandy's topic in Line 3 and Steve's topic in Line 6 obtained responses from the others, making the conversation almost non-interactive. Even the discussed topics tended to be responded to only after several messages had been sent. For example, Steve's topic in Line 2 and 6 was responded to by Harry in Line 11 and by Sandy in Line 12 only after four utterances passed in between. Sandy's topic in Line 3 was responded to by Harry in Line 7 after several utterances passed in between. This CMC transcript shows how several topics kept appearing at the same time, how many messages kept being passed by without eliciting any response from the others, how several topics and responses were mixed and discussed together, and how the participants wrote responses covering several topics.

Example: Excerpt from the transcript of Group 2's CMC information gap activity

L1 Steve: In my picture there is no balloon (Topic 1)
L2 Steve: There are 6 members. 2 men, 3 women, one boy (Topic 2)
L3 Sandy: today's specials are grpes , apple, toothpaste and a package od toilet tissue. (Topic 3)
L4 Harry: In my picture, I'm a cashier on the accounter,so an curled woman opened her bag,and counted his products (Topic 4)
L5 Sandy: There is a woman with a short hair. (Topic 5)
L6 Steve: One woman with glasses, a boy reading a book (Topic 6)
L7 Harry: In my picture today's specials are the same.OK. **(Response to Topic 3)**
L8 Sandy: a lady is holding a package of milk. (Topic 7)
L9 Steve: A bald man is talking with a woman with a earing (Topic 8)
L10 Sandy: ond boy who reads a comic book is waiting on the line (Topic 9)
L11 Harry : In my picture there are three male personsand two women,a boy reading a book. but there is no person wearing glasses. **(Response to Topic 2 and 6)**
L12 Sandy: In my picture there are 2 man, 1 boy and 3 women. **(Response to Topic 2)**

In CMC, participants are required to wait for other participants to finish typing a response in order to get a response, unlike the FTF context where audible responses are instantly occurring and thus the interaction can progress very quickly. Thus, CMC interaction takes more time than FTF interaction when participants want to make linear and interactive exchanges in CMC in the same way as they do in the FTF interaction. However, as shown in the above example of Group 2's CMC information gap activity, the participants tended to keep sending a new message rather than waiting for the other responses to appear on the screen.

When these findings from the transcripts were compared to the survey results for triangulation, it was found that many participants commented in the surveys that their interaction speed was one of their difficulties in doing the CMC activity. This survey result indicates that frequent initiations of a new topic in CMC seemed to pose difficulties for the participants by making it difficult to read the flood of other participants' messages while typing their own messages. In such a situation, it is likely that the participants kept typing their messages without taking much time to think about the messages from others. The participants also seemed to have not found enough time to provide any supportive or negative feedback to the others' ideas or information. As a result, many topics were discussed only superficially, or passed without being discussed at all.

6.1.2 Non-verbal Cues

Another important characteristic of the communication modes that affected the quality of L2 discourses was the availability of non-verbal cues. Since the CMC context did not provide visual cues, participants sometimes formulated incorrect assumptions and misunderstanding about each other's behaviors or utterances. Incorrect assumptions and misunderstanding among the participants made participants engage in several side narrations or off-topic talk in an attempt to alleviate the gaps of their misunderstanding in CMC. In particular, CMC role playing activity produced much off-task or side topic talk, while off-task talk and side topics were rarely found in FTF role playing activity.

For example, when looking at Group 4's CMC role playing activity, the main theme of each group's narration was frequently interrupted by the appearance of off-task or side topic talk. The main theme of their narrations was an unhappy marriage, and this topic was discussed in T1, T2, T7, T8, T9, T12, and T13 (see Table 12). Nevertheless, the topic of the unhappy marriage was continuously disrupted by off-task and side topic talk that was far from the subject of the main topic, such as Hanna's opinion about Sean in the picture (Topic 3), Sean's sudden disappearance (Topic 5), and Sean's backpack (Topic 6).

Table 12. Group 4's Sequence of Topics in the CMC Role Playing Activity

Topic No.	The content of the topic
T1	Hanna accidentally hit Sean in the bus
T2	Sean was unhappy with the argument with his wife
T3	Hanna thought that Sean was a student
T4	Tracy, an old lady, is tired and wants somebody to yield her a seat
T5	Sean's absence from Computer screen (Off-task talk)
T6	Does Sean have a backpack?
T7	Sean and Hanna are unhappy because their wives don't like cooking
T8	Tracy does not have a family
T9	Sean's and Hanna's opinions about a divorce
T10	Is Hanna sleeping?
T11	Let's meet sometime and drink
T12	Hanna is unemployed and do the housework
T13	Hanna does not have a child
T14	Obscene Joke
T15	Hanna needs to get off the bus

In CMC, even a very small different detail of the pictures caused a severe misunderstanding among the participants in the CMC environments, while the FTF participants were easily able to narrow their intersubjective gaps by using a great deal of visual cues, such as looking directly at the other's picture. The following transcript shows how the small differences in details entailed off-task or side topic talk. At first, the three participants talked about why Sean was upset. Right after Sean explained that he argued with his wife, their main topic was suddenly discontinued by the presence of a side topic that was initiated by Hanna. In fact, Hanna was surprised by the fact that Sean was a married man, because she assumed that Sean would be a single student because he carried, in her picture, a backpack. However, she did not know that Sean did not carry a backpack in the other participants' pictures, as displayed in Figure 8-a and Figure 8-b.

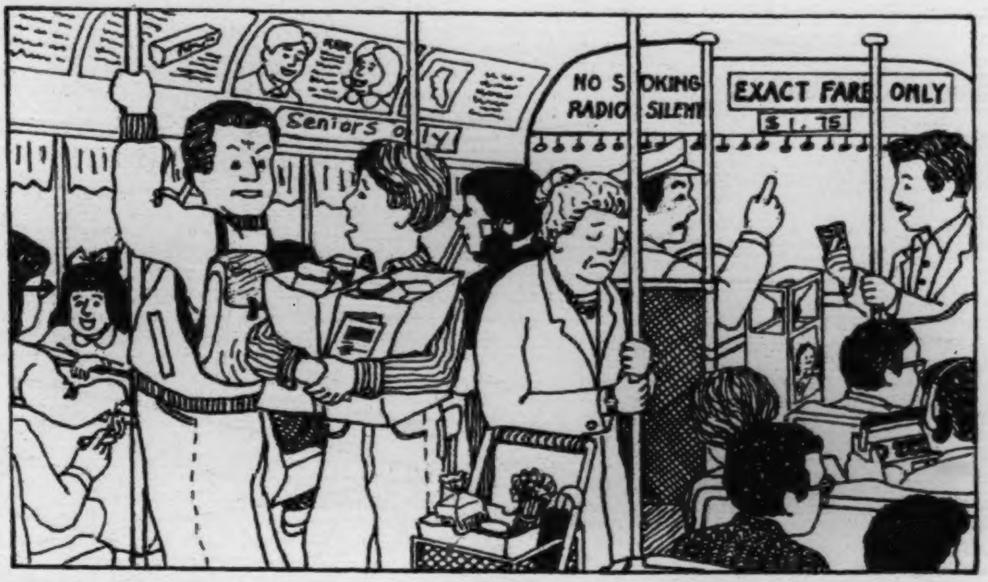


Figure 8-a. Hanna's Picture

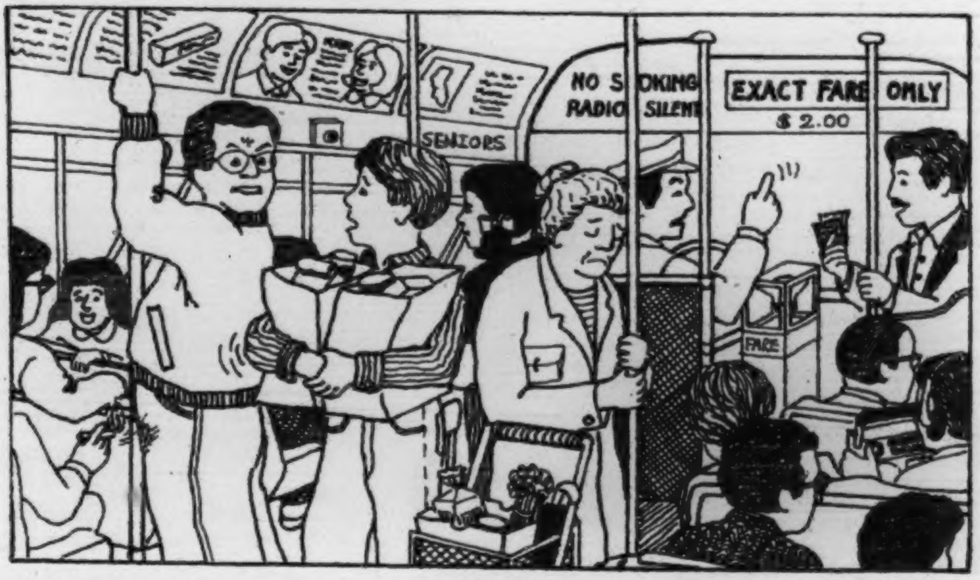


Figure 8-b. Sean's Picture

As a result of Hanna's comment about her surprise, the original topic was suddenly discontinued and replaced by a side topic. Right after Hanna expressed her surprise in L12, Sean exhibited a strong negation by saying, “Are you crazy?” in L13. Sean did not know that he carried a backpack in Hanna's picture; in fact, Sean's character looked much older in Sean's picture because of his glasses. From Sean's point of view, Hanna's claim that Sean was a student would have been absurd, and thus he showed a strong reaction.

Example: Excerpt from the transcript of Group 4's CMC role playing activity

L1 Sean: someone hit me ..I don't like someone to touch me...
L2 Hanna: oh, I'm sorry.
L3 Tracy: that's why you look angry
L4 Sean: In fact ..I fought with my wife..
L5 Tracy: i am so sorry..
L6 Tracy: what happened?
L7 Sean: Be careful..
L8 Sean: Don't care..
L9 Tracy: why do you quarell with your wife?
L10 Sean: It' my buziness
L11 Sean: let me alone..please..
L12 Hanna: oh, are you married. I think you a a student
L13 Sean: me?..student?..Are you crazy?
L14 Tracy: why crazy?
L15 Hanna: usually young guy wearing a back pack
L16 Tracy: you all look very young
L17 Hanna: and If I were you I'm happy

Even a participant's short absence from the computer screen also made the CMC participants easily misunderstand each other and move to off-task talk. For example, Group 4 was making dialogue, and Hanna asked Sean where he was going in Line 1 but did not get a response from him. Sean's lack of response immediately elicited Tracy's off-task talk about Sean's absence in their conversation. However, in Line 5, Sean, who did not seem to know that the other two participants were talking about his absence, suddenly appeared and began to ask about a backpack. Although the previous dialogue about the backpack went by, Sean seemed to have felt that there was some misunderstanding in the previous dialogue and, in consequence, he seemed to have checked for the misunderstanding by going back to the previous dialogue for his short absence. With Sean's sudden question about a backpack, the group's discussion went back to the issue of Sean's backpack. Sean's absence and his concern about a backpack resulted in two different off-task comments, and diverted the participants' concern to the backpack issue again.

Example: Excerpt from the transcript of Group 4's CMC Role Playing Activity

L1 Hanna: where are you going, young man
L2 Tracy: Sean....wake up..
L3 Tracy: what's wrong with Sean....no answer
L4 Hanna: hey Sean, where are you going
L5 Sean: Hey guy.. you said..I had a backpack..no..I have any..
L6 Tracy: jump out of the bus.?...
L7 Tracy: Sean...you don't carry any bag?
L8 Sean: What do you mean?...no bag?..
L9 Hanna: you carrying a back pack, don't kidding
L10 Tracy: right...you said that...Sean.
L11 Sean: no..bag//
L12 Tracy: oh my....
L13 Tracy: i doubted it...
L14 Sean: forget it...
L15 Tracy: ok...

The CMC environment easily made a small difference in a picture or a participant's absence a big issue, enough to cause off-task talk or a side topic. A small difference in a picture and Sean's absence would not have been an issue in the FTF environment because the other participants could visually verify the details of the picture and Sean's behaviors. However, in CMC, a gap in the three participants' understanding was not able to be narrowed due to the large intersubjective gap, and it made the participants engage in much off-task talk in order to fill in the gap of their misunderstanding in CMC. As a result, in the CMC context, a deep discussion of a main topic was often impossible due to the distraction of side topics or off-task topics.

6.1.3 Different Language Skills Required in FTF and CMC

The discourses in CMC were also greatly different from the discourses in FTF because the two different communication modes required different language skills from the participants. Listening skills were not required in the CMC situation but were an essential component for the successful interaction in FTF. When a participant had a lower level of listening skill than the other two participants in the group, his or her chances to express him or herself were often limited in FTF. However, the CMC context was beneficial to such participants because their participation was not affected by their lower listening skill.

For example, Harold in Group 3 was one of the participants who showed a great difference in his discourses in FTF and CMC due to the influence of his listening skills in FTF. The FTF transcript showed that Harold had a somewhat lower level of listening skill compared to the other participants. The following transcript excerpt shows how his listening skills interfered with his ability to be an active participant in FTF. In the conversation, Kristine and Nick were discussing the place shown in their pictures. Kristine provided a long explanation about why the place in the picture was not a fancy restaurant, but Harold summarized her point incorrectly in Line 9. When Harold tried to build a different story on the basis of his incorrect understanding about her, Kristine attempted to explain her argument in a different way in Line 12 and 16, but the transcript shows that Harold still did not seem to understand her clearly (Lines 13, and17). The pitch of his voice became low in Line 25, and he only engaged in peripheral participation while they were discussing this topic.

Example: Excerpt from the transcript of Group 3's FTF role playing activity

L1 Kristine: And uh look at the + cap. Their caps.
L2 Nick: Hm.
L3 Kristine: =uh it is not [il] it doesn't it don't look like a chef chef. Hotel chefs are is wearing a big top //top hat. //
L4 Nick: //ah.// ah.

L5 Kristine: =so I think it is not + expensive restaurant ^ //Yeah// ^
L6 Nick: //Yeah.//
L7 Harold: //Yeah.// OK. Do you?
L8 Kristine: ++ Yeah. So uh
L9 Harold: You you your point is that the man is looking for something uh not food?
L10 Kristine: Yeah, not //food//
L11 Harold: //so// he + saw the sign Help wanted (K: Hm) so uh get into the kitchen ^ and uh + ask uh ask me ^ (K: hm) uh where can I buy something ++

L12 Kristine: uh let's think about this. Um in your picture I saw the circle on the paper ^
L13 Harold: What's uh?
L14 Kristine: Circle. + (Korean – Now we are allowed to show the picture). Here.
L15 Harold: ah circle.
L16 Kristine: Hm. Let's make our situation ^ This man [i] came here to looking for a job.
L17 Harold: You…a job?
L18 Kristine: Yeah. On uh he read read the + read the ++
L19 Harold: OK. //so//
L20 Nick: //oh.// OK.
L21 Kristine: =While he [ri] read [red] [red] the newspaper ^ (H: Yeah. N: Yeah) he find out the somebody at this restaurant looking for somebody ++
L22 Nick: Yeah.
L23 Kristine: Yeah. //Yeah. Ha//
L24 Nick: //looking for somebody// ^ who uh wanted to wanted uh get a job.
L25 Harold: //his his (low voice)//
L26 Kristine: Hm hm.
L27 Nick: =(unintelligible) this restaurant.
L28 Kristine: Yeah.
L29 Nick: OK.

Table 13. Discourse Units of Each Participant of Group 3 in Each Activity

	FTF information gap	CMC information gap	FTF role playing	CMC role playing
Kristine	35.97	39.6	40.51	33.6
Nick	34.27	24.85	32.94	31.2
Harold	29.67	35.43	26.47	35.2

In the FTF activities, Harold had the lowest distribution among the three participants, reporting 29.67% of discourse units in the FTF information gap activity and 26.47% in the FTF role playing activity (see Table 13). However, his distribution in the CMC activities went up, occupying 35.43% in the CMC information gap activity and 35.2% in the CMC role playing activity. Particularly in the CMC role playing activity, Harold's discourse showed the highest distribution of discourse units among the three participants' discourses.

Since FTF required the participants to have a rather high level of listening skills, the FTF environment seemed to deter Harold from becoming a full participant. In FTF, Harold was often silent and his responses were frequently overlapped by the other participants' utterances. His voice was often very low, and his incomprehension toward some topics seemed to discourage him from expressing himself. Since he rarely talked unless the topic was the one that he initiated, his participation rate was lower than that of the others in FTF.

Harold's discourse in the FTF activities was also qualitatively different from his discourse in the CMC activities (see Figure 9). His total rate of PI and PR (productive discourses) was the lowest among the three participants, reporting 6.52% in the FTF information gap activity, 8.1% in the FTF role playing activity. However, his rate of PI and PR was 10.58% in the CMC information gap activity and 12.8% in the CMC role playing activity. In other words, Harold used different discourses in the two communication modes, employing more productive discourses in the CMC activities.

Even for the rate of NR (short and formulaic discourses), about half of Harold's responses were NR in the FTF information gap activities, accounting for 49.57% of his responses (See Table 14). In the case of the CMC information gap activity, Harold used a high amount of NR, and it seems that his discourses had been influenced by the nature of the activity that encouraged the participants to use formulaic discourses. Nevertheless the rate of his responses (Informers) greatly increased in CMC. This means that the result still proved that he was more active in CMC by providing more responses to the others than he did in FTF activities, even though his use of formulaic discourses was still high in the CMC information gap activity.

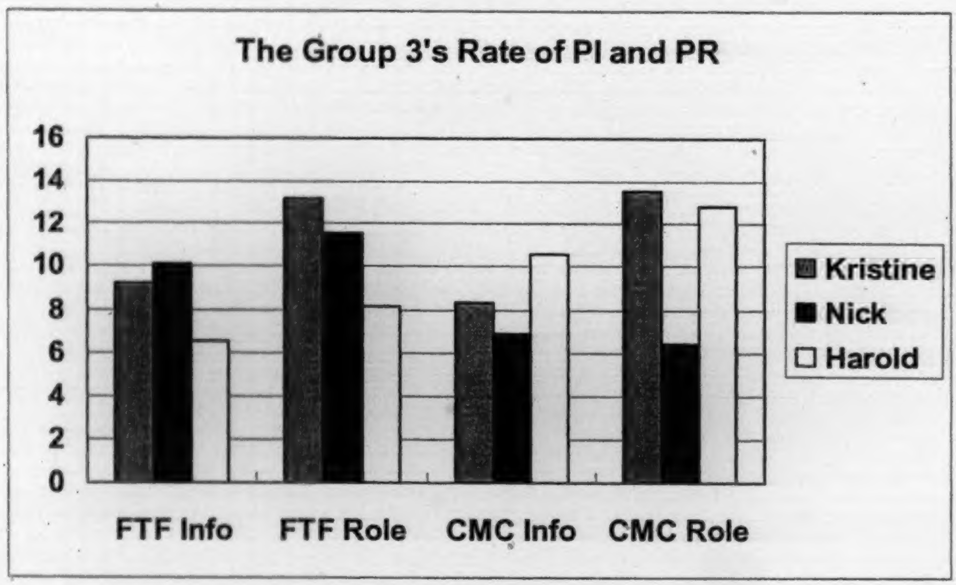


Figure 9. Group 3's Rate of PI and PR in Each Activity

In the CMC role playing activity, however, his rate of NR was the lowest, accounting for only 5.88% of his responses. This means that he used formulaic discourses much less frequently in the CMC context. This result indicates that the CMC environment provided a better chance for Harold to fully express himself in the triad group discussion. Because CMC did not require listening skills for full participation, it seemed to provide the participants with low listening skills better chances to practice their language.

Table 14. Harold's Rate of Informers, PI and PR, and NR in Each Activity

	FTF information gap	FTF role playing	CMC information gap	CMC role playing
Informer	12.93	10.53	18.41	13.6
PI + PR	6.52	8.1	10.58	12.8
NR	6.41	2.43	7.83	0.8

Along with listening skills, CMC also did not require the language fluency that asked for instant and automatic responses from the participants, while FTF often did require such language fluency from the participants. Since the segmentation of the utterances (e.g., pauses, restarts) that usually disturbed the language fluency was not visible in CMC, the less fluent language speakers seemed to be encouraged to produce longer and more complex sentences. For example, Harold's utterances in the Group 3's FTF interactions were often segmented by a pause, a stutter, a rewording, or a rephrasing as in the example below. The frequent appearance of the segmentations seemed to have discouraged Harold, causing him to be less confident in expressing himself in the FTF activities, because it usually took a longer time and he may have been afraid to disturb the interactions of the others in his group by his staggering utterances. Thus, the time pressure may have forced him to use short sentences rather than choosing to express himself using a longer sentence in FTF.

Example: Excerpt from the transcript of Group 3's FTF information gap activity

L1 Kristine: Do you have?
L2 Nick: No.
L3 Harold: No. I don't //have.//
L4 Kristine: //special//. Uh + A man who is washing the dishes + hm look so young.
L5 Nick: yeah.
L6 Kristine: yeah. He has short black hair. And he + //is pointing// //pointing// out the uh + (Korean: What is it?) pot?
L7 Nick: hm //Where?// Where? //Pointing//
L8 Harold: Boiling the (weak voice)
L9 Nick: Pot.
L10 Kristine: //Pot//
L11 Harold: //boiling pot//(weak voice)

L12 Nick: Flowing //the water.//
L13 Kristine: Yeah.
L14 Harold: //pot// over the hm (weak voice)

However, Harold expressed himself much better in the CMC environment where his segmentation was not visible. The following transcript of Group 3's CMC role playing activity shows that Harold communicated effectively with the other participants in the CMC discussions. In the conversation, Nick was playing the role of a nurse while Kristine and Harold were playing patients at a medical clinic. Kristine explained to Nick that she had a stomach ache, and Nick asked Kristine to fill out a form. In this situation, Harold creatively added a new idea that it was his turn to talk to the nurse, and he argued that he came to the clinic before Kristine. After they exchanged a few arguments, Kristine yielded her place to Harold, and Harold expressed his gratitude to Kristine.

Example: Excerpt from the transcript of Group 3's CMC role playing activity

Kristine: Ma'am, I'd like to see a doctor. I have a stomachache.
Nick: Hi. there. Just a minute, at first please fill this form.
Harold: Excuse, Ma'am! Is this your turn? I think it's my turn.
Kristine: Sure, let me get a pen.
Harold: Why do you make a line?
Kristine: No, I came here befor you. I saw you entering the door when I get here.
Nick: hold on, sorry I am busy. what happened?
Kristine: I'd like to see a doctor. I have a stomachache.
Harold: Sorry I didn't you just before, I have been to a rest room.
Nick: sorry Ma'am. please be quiet!
Harold: Any way. Are you serious?
Kristine: No. You look more serious than me. Go ahead.
Harold: As you see, I pained with my eye and my leg is broken. Thank you Ma'am.

Although the CMC situation did not require listening skills, it did require reading skills as an essential component for successful group interaction. FTF, on the other hand, did not require reading skills for an interaction. Consequently, the CMC participants needed to read carefully the others' messages and information in order to fully understand what they were discussing for the group task, in the same way that they needed to listen carefully to the others' utterances to complete their tasks successfully in FTF. Nevertheless, many participants in CMC tended to focus more on producing and sending their own messages rather than being attentive to and reading the others' messages in CMC.

For example, the following dialogue shows that the participants proceeded with their tasks without fully understanding the others' utterances in CMC. The statements in Lines 4, 5, 7, and 8 show that Sandy and Harry were interacting to make one collective story. However, reading the latter part of the exchange, it becomes clear that they were building different narratives, not making a collective narrative. Even though Harry asked Sandy to call her husband in Line 8, Sandy responded in Line 9 that her house was far away from the shop, and she needed to make some cookies for her children. They were apparently making a story on the basis of the same background that the picture suggested, but their narratives were not closely connected to each other because of the lack of their full understanding of the others' messages.

Example: Excerpt from the transcript of Group 2's CMC role playing activity

L1 Harry: 9 items or less is not permitted by checks but only by cash,OK.

L2 Sandy: Harry! I know....But do you know me ?

L3 Steve: a woman in front of me make me crazy , for she maybe forgot a wallet so she make me wait for a long time

L4 Sandy: Excuse me, I can't my wallet, Where is my wallet

L5 Harry: Lady, you must be in a hurry,because may buyers are waiting for a long time in a line.

L6 Steve: She bought a butter, pepsi cola , eggs and so on

L7 Sandy: What should I do ? I have to buy a bottle of jam, a package of sugar. and a butter.My children is waiting for me aat home.

L8 Harry: Don't you have any cash? If you don' have any cash, youtelephone your husband and count your items.

L9 Sandy: My apartment is far away from here. I do made some cookies for my cute kids.....

L10 Sandy: Do you have any other way?

L11 Harry: Otherwise, you must go to the last line and wait for your turn.

L12 Sandy: I'm sorry, Gentleman Steve, what would you like to help me ?

L13 Harry: A frowning man is waiting for his turn. If he threaten you, that's not my charge.

As shown in the above example, the participants built their stories based on their own previous statements rather than on the contributions of others. In other words, each participant developed the ideas from his or her previous narrative for the story, rather than find a clue from the others' narratives, either because they did not fully understood the others' information or because they did not fully attend to it through careful reading.

6.1.4 Different Interactive Patterns of FTF and CMC

The interacting patterns that attracted responses from the next speaker also seem to have been different in the two communication modes. In the FTF triad group interaction, when a participant initiated a new topic, the responses from the other participants came in a linear pattern. Thus, the other participants showed their agreement or expressed their differences in a linear fashion toward the initiation. As shown in the following example, when Tracy described that the pattern of a woman's dress in the picture was like a water drop, the other two participants showed their agreement one by one, saying "Yeah."

Example: Excerpt from the transcript of Group 5's FTF information gap activity

Sean: uh she + She has a white belt?
Tracy: Yes. White belt and its suit kind of suit .. uh the + it's not stripe. I think strings shape. the shape is like what + hm water drop?
Sean: Hm. Yeah.
Hanna: Hm. Yeah.
Hanna: Uh water drop? //Yeh//
Sean: Water //drops?// Yeah. Maybe. //Hm hm.//
Tracy: Yeah. //Yeah.//

However, the triad group discourses in CMC often entailed diverse responses because of the multi-directional nature of the CMC interactions. An example of such interaction is shown in the following transcript excerpt from Group 6. When Heather initiated a topic about the pattern of a woman's dress in the picture, Larry and Jane showed their different responses at the same time. Larry responded that it looked like many eyes looking at him, and Jane responded that it looked like a tadpole. Toward their responses, Heather also described her idea that it looked like Korean flag.

Example: Excerpt from the transcript of Group 6's CMC information gap activity

Heather: how about koko's dress?
Heather: does it has some pattern?
Jane: Yes
Larry: many eye-like patter
Heather: like half of korean flad?
Jane: look like tad pole
Heather: i mean flag
Jane: Yes
Larry: it seems many eyes are looking at me
Heather: yes

As shown in the two examples above, even though L2 participants were talking about the same topic in FTF and CMC, the CMC triad group expressed more diverse ideas about the pattern of a woman's dress than the FTF group. In CMC, one particular idea often elicited diverse responses containing different interpretations and ideas because of the lack of restrictions on taking turns in this mode of communication.

Because the next speaker was not obviously specified in CMC, the responses toward one idea were usually drawn from the other two participants at the same time, which was different from the FTF triad group interaction where only one idea tended to be elicited because of the linear interaction configuration.

The tendency toward diversity of ideas in the CMC triad group interaction may have contributed to the frequency of side topic talk that was discussed above. However, it also tended to bring about much richer resources for discussion among the participants than the linear interaction in the FTF triad group activity did. With the shortages of ideas to build their story, three groups out of six in FTF changed their role playing activity into a free talking activity in the middle of their discussion, while all the groups in CMC continued their role playing activity to the end of the allocated time. This observation is supported from the survey data as well. One participant responded in the survey that she or he did not stop her/his conversation in CMC at the end of the activity, while she or he often stopped her or his conversation in FTF because of the lack of ideas to continue the discussion. Thus, the interactive pattern in CMC provided the participants with rich ideas for a collective discussion.

6.2 Other Different Factors Leading L2 Discourses to Change in FTF and CMC

The previous section examined factors inherent in FTF and CMC that affected the L2 discourses across the two communication modes. However, the examination of the qualitative data also revealed that L2 discourses also changed because of some other factors that were not directly tied to characteristics of FTF and CMC. Those other factors that were observed through this study include: the amount of repair negotiations, the participants' discourse roles and identities, and participant agency. The purpose of this section is to examine how those factors led L2 discourses to change in the two different communication modes as well as in the two different activities.

6.2.1 The Amount of Repair Negotiations

L2 discourses also changed in the two communication modes as the amount of repair negotiations changed. As examined already in the previous chapter, participants in FTF had a much higher incidence of repair negotiation, the modified interaction occurring due to the communication breakdown than they did in CMC, which resulted in a much higher use of Echo, the repetition of the previous utterance. Interestingly, the use of Echo even changed the quality of L2 discourses in FTF and CMC. The following two examples show how Echo elicited the responses from the next speaker. In the first transcript, Sandy and Steve are talking about a man on the bus. Although they were doing the information gap activity, there was an indication about each participant's role in the picture. The picture indicated that Steve was the man who was carrying two big paper bags. Indicating the man with two paper bags, Sandy expressed her thought, "You look very young." However, Steve thought that the man in the picture did not look very young, and responded, "No." Since Sandy did not expect Steve's disagreement about the man's appearance, Sandy used Echo and requested a confirmation by repeating the word, "No?" Then, Steve clarified his meaning, saying "Not very young."

Example: Excerpt from the transcript of Group 2's FTF Information gap activity

Sandy: You look very young.
Steve: No. NR
Sandy A: No? C(N/Echo)
Steve: Not very young. PR

However, the use of Echo in the next dialogue was somewhat different from the use of Echo in the previous dialogue. Sandy explained that there was no design pattern in a woman's jacket in her picture, and Harry requested a confirmation, using Echo, "No printed?" However, Sandy provided only a short response, "Yeah. In my picture." Harry seemed to feel that he did not get a clear response from Sandy, and asked Sandy by repeating the phrase again, "No printed?" However, Sandy simply gave him another short response, "Yes." Then, Harry showed a signal that he understood by saying, "Oh," even though he did not get any specific clarification from Sandy.

Example: The transcript from Group 2's FTF Information gap activity
Note: (1) C(N): Negotiation continuer; (2) C(N/Echo): Echo of Negotiation continuer; (3) NR: Negative response; (4) SF: Short follow-up.

Sandy: uh: + uh she is she's wearing a jacket.
Steve: Yeah. With Jacket with striped jacket. PI
Sandy: Striped jacket? Oh. It's different. My jacket so women's old women's jacket is uh no printed. C(N/Echo), SF, PI
Harry: No printed? C(N/Echo)
Sandy: Yeah + in in my picture. NR
Harry: No printed? C(N/Echo)
Sandy: Yeah. NR
Harry: Oh. SF

The reason why the two participants exchanged only simple discourse instead of longer clarification was that Sandy and Harry had already collected the necessary information from the dialogue between Sandy and Steve in the initial part. From the initial part of the conversation between Sandy and Steve, Harry had already obtained some understanding about the jacket's pattern in Sandy's picture before asking Sandy. Likewise, Sandy also supposed that Harry had already known that the jacket did not have a design pattern and that Harry simply sought to get a confirmation from her. Thus, Sandy supposed that she did not need to provide a detailed explanation to Harry, and she provided a formulaic discourse instead of longer clarification.

Therefore, the use of Echo as a confirmation check in the second dialogue elicited only short and simple responses, unlike the use of Echo as a clarification check in the first dialogue that elicited more elaboration. When Echo was used for a confirmation, both the speaker and the listener already had some understanding about the topic that they were discussing, even though they still needed to exchange a confirmation about what they understood. As a result, when the speaker asked for confirmation, the respondent tended to repeat the previous utterance or provide a short response such as "Yes," or "No" to the speaker's Echo.

Because more than half of the Echoes were used as confirmation checks in FTF (see the quantitative result in the Chapter 5), this type of utterance also affected the quality of L2 discourse in FTF, encouraging L2 participants to use a great deal of

NR as their responses. The average percentage of NR was 17.17% of all the discourse units in the FTF information gap activities, and 9.13% in the FTF role playing activities. However, the percentage of NR was less in the CMC activities, and the decreased use of Echo affected the quality of L2 discourse across the two communication modes. The average percentage of NR was 13.04% in the CMC information gap activities, and only 3.06% in the CMC role playing activities (see Table 15)

Table 15. The Percentage of NR Out of All the Discourse Units in Each Activity

NR	FTF information gap	CMC information gap	FTF role playing	CMC role playing
G1	19.69	12.65	9.28	1.86
G2	15.58	0	8.98	0
G3	15.17	17.5	7.56	3.2
G4	16.2	13.96	4.88	1.34
G5	14.88	14.84	15.45	9.93
G6	21.48	19.33	8.66	2.05
Average	17.17	13.04	9.13	3.06

In addition, the recorded video tapes showed that the FTF participants exchanged many contextual cues, such as pointing to the shirts, changing the tone of their voices, or making faces, while they engaged in negotiations. These kinds of contextual information seemed to provide a lot of information to both the speakers and the respondents, amplifying their understanding and increasing the chances for respondents to respond with short formulaic discourses in FTF.

The results also show that L2 learners used formulaic discourse more frequently in the information gap activity than in the role playing activity. This suggests that the nature of information gap activity encouraged L2 learners to use formulaic discourse more frequently than in the role playing activity. As shown in the following example, in the information gap activity, L2 participants repeatedly tended to use discourses with a certain morphosyntax. For example, the speaker tended to ask a question, using "Does (subject) have (or other verb)?" type of sentence, and the next speaker tended to respond, using "yes," "no," or Echo. In this way, information gap activity encouraged L2 participants to use Echo as a question and formulaic discourses as a response frequently.

Example: Excerpt from the transcript of Group 1's FTF Information Gap Activity

Gabby: Does the woman uh wear the glasses?
Kevin: No.
Gabby: No? (Echo)
Kevin: She has no glass.
Gabby: She she doesn't have //wear glasses?//
Kevin: She doesn't //have. hm.//
Gabby: OK.

Gabby: Who glasses in your picture? Who wear glasses //in your picture?//
Kevin: //Only a nurse.//

Gabby: Only a nurse? How about you? Who wears //the glasses?// Only //a nurse?//
Cool: //yeah.yeah// //doesn't.//

Nevertheless, even in the role playing activity, Echo elicited short responses when the interlocutors were not talking out of genuine curiosity but were simply engaging in talk to carry out the assigned task. For example, in the following conversation from Group 1's FTF role playing activity, Gabby and Kevin are playing the roles of a nurse and a patient at a medical clinic. Gabby, in her role as nurse, asked Kevin about his job, and Kevin answered that he was an English teacher. However, Gabby already knew that Kevin's real job was an English teacher, and he was aware that Gabby already knew this information about him. Thus, Kevin did not elaborate about his job to Gabby, and he simply responded by saying, "Yeah," in Line 10.

Example: Excerpt from the transcript of Group 1's FTF role playing activity

L1 Gabby: OK. By any chance. ++ Kevin! What is your job?
L2 Kevin: Uh. My job is teacher.
L3 Gabby: Really?
L4 Kevin: Yeah.
L5 Gabby: What subject do you teach?
L6 Kevin: English.
L7 Gabby: English? (Echo)
L8 Craig: Hm.

L9 Gabby: Really?
L10 Kevin: Hm.
L11 Gabby: Wow.

In short, L2 participants engaging in FTF sessions, especially the FTF information gap activity, used a large portion of their negotiation for the purpose of a confirmation rather than for the purpose of a clarification about the listener's incomplete understanding. As a result, repair negotiation in FTF sessions more often facilitated the use of short and simple language instead of complex language, as the participants often shared some understandings toward each other due to a lot of contextual cues in the FTF information gap activity, or because the participants were often discussing a topic that was familiar to them in the FTF role playing activity.

6.2.2 Different Discourse Roles and Identities

Another notable factor that changed L2 discourses in FTF and CMC was related to each participant's discourse roles and identities. The participants had different understandings and assumptions about their participation in each activity, and this made them play a specific discourse role in the activities. For example, some participants tended to play an Initiator's role during an activity, while the other participants mainly contributed as Continuers. Since each participant tended to play a specific role, the change of one participant's discourse role affected the others' discourse roles, bringing out an entirely different group dynamic.

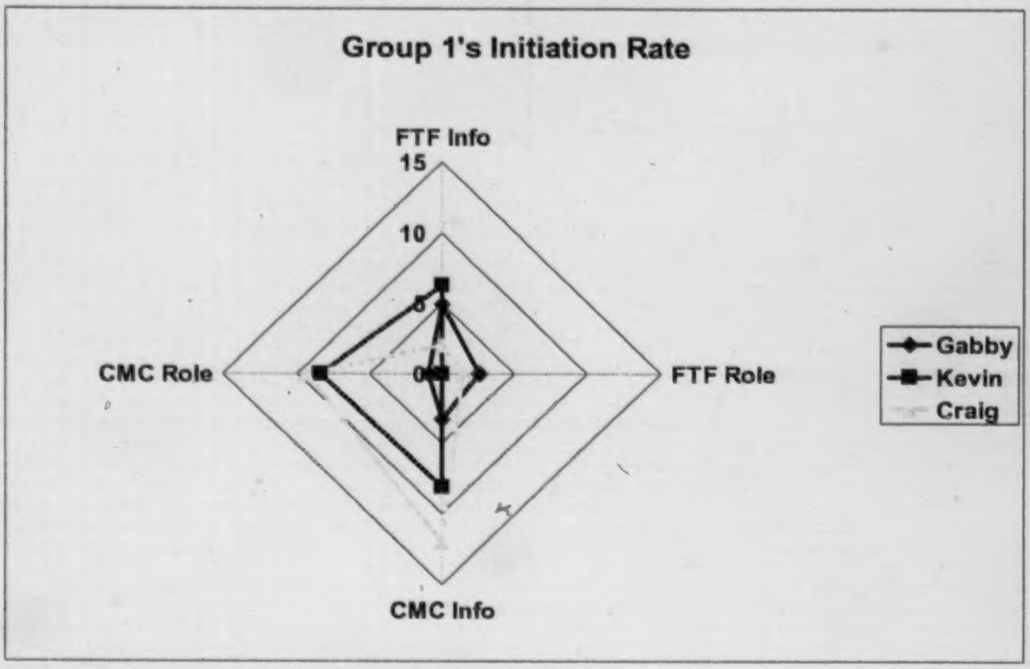


Figure 10. Group 1's Initiation Rate in Each Activity

Group 1 provides a good example of how the dynamics of group discourse can differ greatly in FTF and CMC due to the change of the discourse roles of individual participants. Figures 10 and 11 show the three participants' roles as Initiators and Continuers in all four activities. In the Initiation graph, Craig's line box takes up the largest space and leans toward the CMC activities (see Figure 10). This graph shows that Craig was a more active participant in the CMC activities and he especially contributed as the main Initiator. Gabby's line box, on the other hand, takes up the least amount of space, which means that Gabby did not contribute much as an Initiator in all of the four activities.

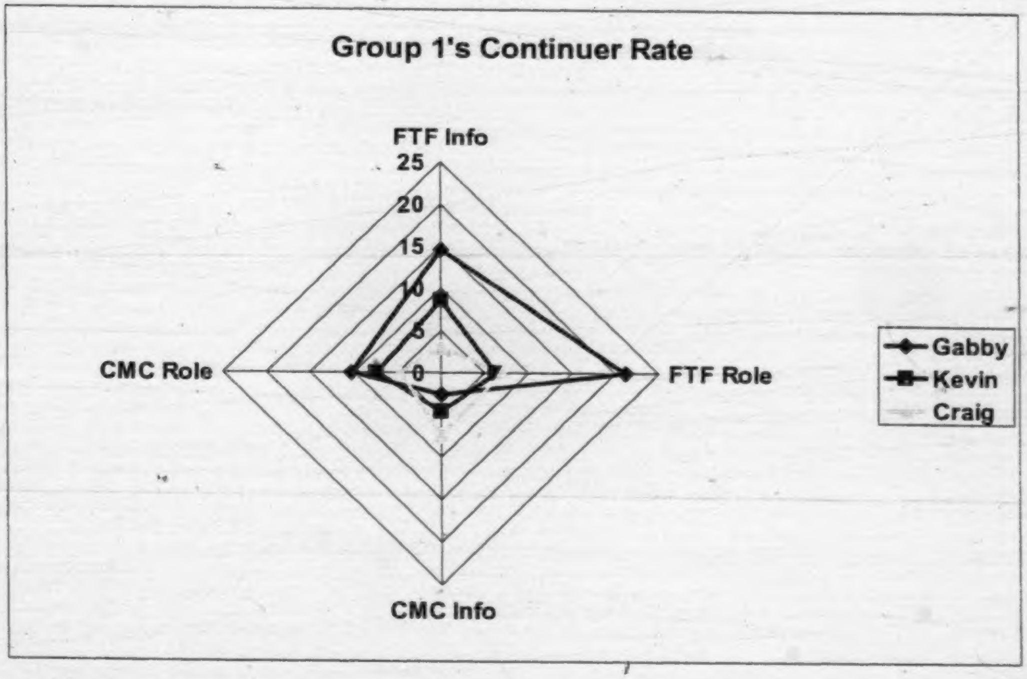


Figure 11. Group 1's Continuer Rate in Each Activity

In contrast, the Continuer graph for Group 1 shows that Gabby's line box takes up the largest space and that it leans toward the FTF activities (see Figure 11). This means that Gabby was an active participant and she contributed greatly as a main Continuer in the FTF activities. Craig's line box takes up the smallest space, which means that he did not contribute much as a Continuer in all four activities. Although his contribution as a Continuer was the largest in the CMC information gap activity, the rate of his discourse role as a Continuer was still low (7.46%) compared to Gabby's rate of her discourse role as a Continuer in the FTF activities (14.64% in the FTF information gap activity and 21.18% in the FTF role playing activity).

In the FTF sessions, Gabby made a large contribution as a Continuer to elicit interaction from others (14.64% in the FTF information gap activity and 21.18% in the FTF role playing activity). As shown in the following transcript excerpt, Gabby's role as a Continuer was dynamic and sometimes even persistent. When Craig explained that he was a sports counselor, Gabby asked him to clarify his job. Even after Craig provided a detailed explanation about his job, Gabby kept asking for other relevant information, so that the ideas of the topic were expanded into a longer sequence.

Example: Excerpt from the transcript of Group 1's FTF role playing activity

Gabby: What is your job? I want to know + //you job is//
Craig: //I'm a sports //sport sports +
counselor

Gabby: //Ah. Sports counselor?// What?
Kevin: //Ah, sports councilor?// ah: //Good job.//
Gabby: //What kind of// uh: works? What kind of works

do you // do? + eh hm// I want to know.
Kevin: //What do you do?//

Craig: uh + I can + I can have people with a physical + both physical and mental problem
Gabby: Physical

Gabby: Mental problem?
Craig: Yeah.
Gabby: Hm. Do you know how to play song sports? Do you teach do you teach how to
Craig: Not really.
Gabby: Not really?
Craig: Yeah.
Gabby: Yeah. ++ What uh what is the most serious problem? ++ Do people use on the head?

Craig: Um. + Kind of uh + retarded Retarded persons.
Gabby: Retarded Hm hm.
Craig: Not not very (unintelligible). + And + uh one thing and + the other isn't: someone who has a mental problem.
Gabby: hm

Gabby: Mental problem. Hm hm.
Craig: But I can help them + by talking.
Gabby: By talking
Craig: hm. Asking ^ And answering questions //each others//
Gabbyabby: //About what?//
Craig: uh They can find their answers + uh by their own.
G: hm hm
Gabby: Ah ha. Really? Wow. + Very unfamiliar job to me. (laugh)

On the other hand, the following excerpt from Group 1's CMC transcript shows how Craig played the role as an Initiator, and how Craig's role as an Initiator affected the other participants' discourses in CMC. Craig took 12 turns among the 24 turns, taking up half of the turns of the following conversation. He also initiated all six topics, controlling the group conversation. In Lines 1 and 2, he initiated the two topics, and he made the third initiation in Line 4. Kevin gave a response about Topic 2 in Line 5, and Gabby also provided her response about Topic 1 and 2 in Line 7. Gabby acted as a Continuer in Line 10 and tried to expand the discussion of Topic 2, but Craig made his fourth initiation in Line 11. Although Kevin joined in the further discussion of Topic 2 in Line 12 by responding to Gabby's question, Craig initiated two more topics in Lines 13 and 14. As a result, the further discussion of Topic 2 was discontinued and the disorderly discussion of several topics appeared in the rest of the following dialogue. Craig's initiations of too many topics diminished the chances for the other participants to play their discourse roles in the dialogue.

Example: Excerpt from the transcript of Group 1's CMC Information gap activity

L1 Craig: next to the girl an old lady is leaning a post holding it tightly with two hands (T1)
L2 Craig: and there's a cart with an umbrella and some groceries in it next to her. (T2)
L3 Craig: you see?
L4 Craig: the old woman is closing her eyes after a long shopping? (T3)
L5 Kevin: behind the black haired girl, ano, umbrella, (R2)
L6 Kevin: sorry

L7 Gabby: ya, her head is leaning tha post , and next to her there is a carter contained someing th eat. So you're right. (R1& R2)
L8 Craig: right. (R1 & R2)
L9 Kevin: right (R1 & R2)
L10 Gabby: what are in the carter? (R2)
L11 Craig: she has an necklace too (T4)
L12 Kevin: there are three items (R2)
L13 Craig: with white coat, long coat (T5)
L14 Craig: with a watch on her right hand (T6)
L15 Kevin: it looks like a container of milk (R2)
L16 Gabby: No.in mine there is on necklace (R4)
L17 Craig: milk, I see, too (R2)
L18 Gabby: no watch (R6)
L19 Kevin: wearing striped coat (R5)
L20 Craig: on necklace? (R4)
L21 Craig: no striped (R5)
L22 Craig: just white (R5)
L23 Kevin: t-shirts line (R4)
L24 Gabby: no stripe. and no stripes, no watch.!!! Let;s check them up! (R4, R6)

The above results show how the participants took on different discourse roles while they engaged in activities, and how this affected the group discourses. In the CMC example presented above, when one participant of the triad group conversation took a role as an Initiator, it impeded the other participants from being involved in a more detailed discussion of their topics. The CMC context accentuated the role of the Initiator by providing a context in which several topics could be initiated simultaneously or in rapid succession. Consequently, the other two participants were not able to fully engage in their discourse roles during the conversation.

6.2.3 Participants' strategies for engaging in interaction

The group discourse in FTF and CMC also changed due to the participants' specific strategies and plans to become better participants. The participants developed their own strategies to become more fully engaged in an activity and attempted to apply their successful strategies to their practices in subsequent activities. Their strategies often encouraged them not only to increase their participation in the group discussion but also helped them to engage in more productive language practice when they applied their successful strategies in their next activities.

For example, Chris in Group 5 was not as active as the other two participants in his group. The transcripts revealed that Chris' English skills were insufficient to enable him to understand the other participants' utterances and contribute actively. Chris usually responded only when someone asked him a specific question. Thus, many topics in the beginning of the FTF activity were discussed only between the other two participants without Chris' participation.

However, from the middle of the FTF information gap activity, Chris began to initiate a new topic more frequently, and he actively participated in the discussion of the topics that he initiated, even though he still rarely participated in the topics that were initiated by the others. Nevertheless, his topics were not always related to the previous topics that were initiated by others. Chris seemed to have realized that the best way to increase his chance to speak was to invest his efforts in bringing out his own topics. For topics that he initiated, it seems to have been much easier for him to participate in the conversation because he was able to have a better understanding of what was being discussed.

Chris also developed some strategies to attract people's attention to his topic by calling a participant's name, as shown in Line 1 of the following transcript. In situations where the three participants were somewhat competitive in initiating a topic, Chris' strategy was effective in attracting the attention of the others and bringing out his topics. In the following example, Erika and Yvonne were talking about a doll, but Chris did not participate at all in the discussion of their topic. However, in Line 14 and Line 16, he suddenly called the other participants' names and initiated a new topic about a cashier. Even though his topic was not relevant to the previous topic about a doll, he was successful in attracting the others' attention to his new topic. Once Chris took the initiative for his topic to be discussed, he continued to provide relevant questions and obtained the necessary information from the other two participants, as shown in Line 30 and Line 35. By providing the relevant questions, he could strategically maintain his topic and also increase his chances to interact with the others.

Example: Excerpt from the transcript of Group 5's FTF Information Gap Activity

L1 Erika: Hm hm. uh I have a doll //between//
L2 Yvonne: hm hm. //doll?//
L3 Erika: Hm. Doll. Doll. Between doll uh between today's specials and check cashing policy.
L4 Yvonne: Doll.
L5 Yvonne: Hm. //What kind of doll?//
L6 Erika: uh there's //there's a // small space.
L7 Erika: Doll?
L8 Yvonne: Yeah.
L9 Yvonne: Teddy //bear?//
L10 Erika: //It's a//. No no no. It's a girl. Girl doll. Girl.

L11 Yvonne: OK. //I see.//
L12 Erika: //Yeah.// uh it the doll is hanging ^ + hanging + on the nail? Nail?
L13 Yvonne: Nail? + Ah nail. Yes.
L14 Chris: uh Erika. uh //how many// uh +//(?)//
L15 Erika: Yes. //no no no no//. //nickname//.
L16 Chris: uh so Young
L17 Yvonne: Yeah.
L18 Erika: Hm. Young.
L19 Chris: How many cashier are there?
L20 Yvonne: I have only one. Uh just only a man male cashier. How about you? Do you have two cashier?

L21 Chris: Cashier. Cashier. Cashier. Cashier.
L22 Erika: Cashier? OK.
L23 Chris: hm. I don't know exactly.
L24 Yvonne: I have only one male cashier.
L25 Erika: Male cashier and behind him, there's another helper. //There's// a
helper. I think so. OK. //So the//
L 26 Chris: Ah ha. //Helper//
L27 Yvonne: Ah ha. She's a helper.
L28 Erika: Oh. Yeah.
L29 Yvonne: Hm.
L30 Chris: Is is helper women or man?
L31 Erika: I think + I think woman.
L32 Yvonne: //Yeah. My// mine too.
L33 Chris: //Woman//

L34 Erika: //Short// hair short cut woman//
L35 Chris: //uh do does does does // she wear glass //and no (?)//
L36 Erika: //Yeah. Glass.//
//Glasses.

Chris also succeeded in attracting the others' attention by saying, "I have a question." In the following transcript, Erika was in the middle of talking about a previous topic in Line 1, but suddenly Chris brought a new topic by saying, "I have a question." Chris' utterance seemed to have given the other participants the impression that he had a question about the previous topic that Erika initiated. Erika stopped talking and gave Chris a chance to go on with his question. However, Chris used this chance to initiate his new topic, and his new topic was not related to the previous topic.

Example: Excerpt from the transcript of Group 5's FTF Information Gap Activity

L1 Erika: the I think uh the uh +
L2 Chris: And I have a uh question.
L3 Erika: Yeah.
L4 Chris: uh + uh How how many people are there?
L5 Yvonne: uh four six I I have six people.
L6 Erika: Yeah. I have six.
L7 Chris: Six. Same.

In the FTF information gap activity, Group 5 produced rich interactional discourse as a result of many negotiations among the participants. The transcript displays that their discussion had longer and more turns compared to the other groups' FTF information gap activity. Despite Chris' lower English skills, his strategies and his strong intention to be an equal participant made it possible for him to be involved in many group topics. At the same time, Chris' persistent strategies to be involved in the discussion made the other two participants engage in a lot of elaboration, repetition, rephrasing, and clarification. The participants often had to repeat and rephrase their utterances to make Chris understand what they had meant.

Interestingly, however, Chris' FTF strategies played out differently in CMC, and produced a different group discourse. In CMC, Chris, who successfully developed some effective strategies to become a better participant, tried to use the same strategies in his CMC practices. However, the strategies that helped him to become a more active participant in FTF information gap activity did not work out the same way in the CMC environment. The following transcript shows how he struggled to become a fuller participant by initiating his topics. In the transcript, Chris brought two new topics in Line 12 and 18, but his topics did not get much attention from the other two participants. Although the other two participants gave a response to Chris' topics in Line 14 and 22, they quickly went back to their original topic.

Example: Excerpt from the transcript of Group 5's CMC Information Gap Activity

L1 Yvonne : why don't we have an order to explain? which part do we start?
L2 Yvonne : left or right side?
L3 Erika : ok.
L4 Erika : I can't see the face.
L5 Yvonne : left.. i see
L6 Yvonne : i can't see his face either
L7 Yvonne : and the shape of the hat is round and white.
L8 Erika : He is wearing a apron and a pants.
L9 Yvonne : yes.
L10 Yvonne : there is a pocket in the apraon. right
L11 Erika : where is the pocket?
L12 Chris : this is kitchen
L13 Yvonne : the man's apron.. you don't have?
L14 Yvonne : yes. it's kitchen
L15 Erika : I don't have it.
L16 Yvonne : it's different. we found one
L17 Erika : Yes. the man's pants is dark. is it check printed pants?

L18 Chris : there are 4people and 1 girl outside
L19 Yvonne : no.. his pants are checkered
L20 Yvonne : also different
L21 Yvonne : right
L22 Erika : I don't have any girl.
L23 Yvonne : we are talking about the man at the end of the left side of the picture
L24 Erika : yes, his hair is short and curly?

Chris also tried to attract Yvonne's attention by referring to her directly in Line 8 as he did in FTF information gap activity. Chris seems to have gotten Yvonne's attention in Line 10 for a short while. However, Yvonne went back to her original topic without waiting much, and Chris lost his chance to speak about his topic.

Example: Excerpt from the transcript of Group 5's CMC Information Gap Activity

L1 Erika : and looking his paper
L2 Yvonne : yes...Erika
L3 Chris : yes
L4 Chris : same
L5 Erika : his hair short and black
L6 Chris : something is over flowing on the oven
L7 Erika : yes
L8 Chris : Yvonne
L9 Erika : there is a pan on the oven
L10 Yvonne: wait..
L11 Chris : Yvonne?
L12 Yvonne : and the man has a belt?
L13 Erika : yes, white one

L14 Yvonne : the young man's hair is black?
L15 Erika : yes, black.
L16 Chris : black

Chris did not take many chances speaking in the CMC information gap activity, even though he used the same strategies that successfully worked out in FTF information gap activity. His participation rate in the CMC information gap activity was very low, at only 17.3% (See Table 16). Chris tried to introduce his topic, but his topics did not get much attention from the other two participants. Rather, his turns often disrupted the others' interactions because his new topics were unrelated to the topics that the others had been discussing.

Table 16 Group 5's Distribution of Discourse Units

Distribution	FTF information gap	CMC information gap	FTF role playing	CMC role playing
Early	39.72	34.14	45.1	43.42
Young	33.94	48.49	33.02	35.55
Cute	26.23	17.3	21.79	20.92

The main reason for this discourse pattern seems to come from the lack of visual cues in CMC. Chris did not seem to find the appropriate time to introduce his topic due to the lack of visual cues. In FTF, even though he was not attending to the others' topics, he still could find the appropriate time to introduce his topic by looking at the others' gestures and behaviors without interrupting the others' conversation much. However, in the CMC information gap activity, when he did not attend to the others' topics, he could not find the appropriate initiation time and consequently interrupting the others' conversation.

Group 6's interaction was another example in which a participant's intentions strongly affected the group discourse in FTF and CMC. Group 6 included Heather, who had a strong motivation to complete the task, and the group discourse was organized by a specific discourse style that Heather intended to seek. In the FTF environment, Heather showed exemplary narrations and various clues to help the other participants build their narrations, and the other two participants were able to develop their ideas following her style of discourse. Although the group discourse showed somewhat submissive collaboration where the participants followed the leader's discourse style, the group was able to accomplish the tasks efficiently with a symmetrical distribution of participation, as shown in the following example.

Example: Excerpt from the transcript of Group 6's FTF role playing activity

L1 Heather: Ok. Hm. I'm twenty two years old. (L: wow) I finished my college. But I was I was very sick for a long time. So

L2 Jane: Sick?

L3 Larry: //Sick?//

L4 Heather: //Sick// Yes. Sick. Ill. Ill.

L5 Jane: Yeah.

L6 Heather: So I couldn't get good grades. So now I starts the career as uh assistants cook. hhh

L7 Jane: hhh

L8 Larry: How do you know that? You made up?

L9 Heather: Yeah.

L10 Larry: hhh. Wow. Hhh

L11 Jane: Is this our work?

(pause)

L12 Larry: So you are applying //and interview//?

L13 Heather: hm hm //applying for job.//

L14 Heather: Hm hm.

L15 Larry: Yeah?

L16 Heather: Yes. I saw (J: Yes) I saw this ad wanted. Help wanted on the paper. So I circled that that line.(L: ah ha) Then I I came here to ask interview.

L17 Jane: Ah ha. The the applicant wondered if there is a job?

L18 Heather: From the newspaper.

L19 Jane: Oh. Yeah. Yeah.

L 20 Heather: Ah. My name is.. My name is Joshua.

L 21 Jane: Joshua. Wow. Hh

L22 Larry: From? //From?//

L23 Heather: //From// Vancouver.

L24 Larry: Hhh

L25 Jane: hhh I'm a main cook. My name is ++ Harry? He Harry.

L 26 Heather: Oh. It's very very

L 27 Jane: Common name?

L 28 Heather: I I mean becoming to him.

L 29 Larry: Ah ha.

L 30 Heather: I mean very very go well goes well with him.

L 31 Jane: Ah.
L 32 Larry: Matches well.
L 33 Jane: Yeah. Matches well.
L 34 Heather: Hm.
L 35 Jane: I I have worked I have worked for 10 years in this restaurant. (H: hm. L: hm) I + I enjoy cooking.
L 36 HeatherHm hm.

Heather also made several clarification requests, and this seemed to provide the other two participants with a lot of clues to help them to develop their stories. In the following transcript, whenever Larry built a narration, Heather repeated or rephrased Larry's sentences, as shown in Lines 3, 5, 7, 9, 11, 18, and 22, or by asking related questions in Lines 15, 20, and 24. Heather's rephrasing not only seemed to help Larry to elaborate more on what he had already explained but also provided some clues for Larry to develop more ideas of his narration.

Example: Excerpt from the transcript of Group 6' FTF role playing activity

L1 Heather: How about your story?
L2 Larry: Yeah. I had just came in this restaurant ++ three months ago. So I always do the do the dishes. OK? (J: Yeah) But I'm always in hurry because I have no career. OK?
L3 Heather: You mean you're the the?
L4 Larry: Beginner.
L5 Heather: You're the beginner //at this kitchen//?
L6 Larry: //so I have no cap.//
L7 Heather: You have no cap?
L8 Jane: Ah. No cap.

L9 Heather: There you always do dishes?
L10 Larry: Yeah. Yeah.
L11 Heather: Always do some kinds of small things?
L12 Larry: //Yeah. Yeah. Yeah.//
L13 Jane: //Yeah. Yeah. Yeah.//
L14 Larry: And I'm always busy um doing the dishes and doing the laundry and cleaning the kitchen.(J: Yes.) Yeah?
L15 Heather: What did you do before you come here?
L16 Larry: Hm. I was a teacher in Korea. Hhh
L17 Jane: hhh
L18 Heather: But you wanted to move to Canada?
L19 Larry: Yeah. Change my life and do more experience. OK? So I moved. OK?
L20 Heather: With your family?
L21 Larry: Not yet.
L22 Heather: Not yet. //Just you//?
L23 Larry: //After I// prepare uh, I'll call them. Yeah.
L24 Heather: But uh are you satisfied with your self in this (L: so far) kitchen?
L25 Larry: Yeah. So far.

However, in the CMC environment, Heather's strategy of providing clues for the other participants had the effect of hindering them from developing their own ideas. Without limiting her chance to talk, Heather provided many clues to facilitate the development of the others' narration. The problem was that Heather provided many more clues than were needed, and this only increased the number of messages that Heather sent. Heather's frequent messages resulted in an increased speed of their conversation, and it also increased the number of messages that the other participants had to read within a limited time.

In addition, Heather's clues were sometimes too specific to allow Larry to create his own narration, such as those in Lines 3, and 9. Those clues already contained a specific structure and this tended to direct Larry toward a specific content, not giving him the option to develop his ideas in the way he wished to develop them. With the shortage of time, Larry did not seem to use his opportunities fully to think about other choices to expand his ideas. He tended to build his narration in the way that the questioners specifically directed, rather than speaking creatively.

Example: Excerpt from the transcript of Group 6's CMC Role Playing Activity

L1 Heather: where is Tom?
L2 Larry: I am with you
L3 Heather: you seem to like travel, too
L4 Larry: I really like
L5 Heather: so you
L6 Jane: Therre are lots of historical relicks such as Pyramid , spinks..
L7 Heather: are living here or visiting?
L8 Larry: just travelling
L9 Heather: you had accident so you had to stay here, right?
L10 Jane: Where is your country ,or town
L11 Larry : Korea
L12 Jane: Where is your parents ?
L13 Larry : in Korea

Group 5's and Group 6's conversations showed that the participants not only practiced their second language but also tried to develop strategies to become effective communicators through the conversational practices. When they were successful with their strategies in one situation, they also tried to apply those strategies to their subsequent activities. Therefore, each activity seemed to provide the participants with various conversational experiences to help them become better participants in their next practices.

However, a good strategy in FTF was not always advantageous when it was used in CMC. As shown in the example of Chris in Group 5, the strategies that worked to increase his participation in FTF were a hindrance in CMC. The use of a specific strategy could also produce good collaboration in one context but dissonance in another. In the example from Group 6, Heather's style of conversational leadership helped the group build a good organizational integrity in FTF, but it also excluded the other participants from having a chance to seek their own interests and concerns in their narratives in CMC.

Chapter VII

Conclusions and Implications

7.1 Summary of Conclusions

The purpose of this study was to directly compare the L2 discourses in FTF and CMC. In particular, this study examined the discourses of L2 participants engaging in two specific tasks known to contribute to promoting the negotiation of meaning: information gap and role playing. Information gap activities and role playing activities are common SL classroom tasks, but little research has been conducted to investigate how they differ with respect to the language produced when they are carried out in a CMC modality as opposed to the traditional FTF mode of communication. In addition, this study also examined the discourses of triad groups. Until now, few researchers have examined triad groups of interaction, although the triad has been one of the common ways of grouping in second language learning classrooms.

Based on the discourse-analytic perspective, this study employed qualitative data primarily but with some quantitative data for triangulation. The complementary use of the qualitative and quantitative methods for my research was not only effective in providing an insight on the differences of L2 discourses in the two communication modes but also helpful in explaining how and why L2 discourses were qualitatively different in FTF and CMC.

For the quantitative analysis, this study developed the Intersubjective framework to reveal the L2 discourse patterns in each activity. The Intersubjective framework not only helped reveal that L2 discourses were different in many ways in FTF and CMC, but also provided good insights into how they were different. For the qualitative analysis of L2 discourses in FTF and CMC, this study employed Conversation Analysis, which provided a means of investigating the important details of how and why an individual discourse changed in different activities or in different communication modes. Conversation Analysis was helpful in revealing what factors affected the change of L2 discourses across the two modes.

The purpose of this chapter is to summarize the results of the study and to explain how those results answered the research questions. On the basis of the findings, I also offer implications and recommendations for further research.

7.1.1 The Differences of L2 Discourses in FTF and CMC

Many recent CALL studies have stressed the prominent advantages in using CMC for L2 learning. There is no doubt that the CMC communication mode is a powerful and effective medium for L2 learning, even though most of the potential has yet to be realized. In particular, synchronous CMC has attracted the interest of many researchers and practitioners because it possesses many innovative features beyond those of FTF, in addition to sharing some common features with FTF interaction. Thus, many recent CALL studies have compared CMC and FTF interactions and have reported the pedagogical aspects of synchronous CMC interaction.

There have been quite a few studies that directly compared the discourses in the FTF and CMC contexts (Beauvois, 1992; Chun, 1994; Kern, 1995; Sullivan, 1996), and the researchers of those studies believed that the features of CMC discourses could be revealed by directly comparing them to the discourses of FTF interaction. However, many of the studies that compared L2 discourse in FTF and CMC relied primarily on quantitative results, such as the amount of turn taking, the length of the turn taking, or the number of words. Much less is known about the qualitative differences between L2 interactions in the two communication modes.

Because negotiated interaction has been one of the main interests in the recent CALL studies, this study first compared the amount of repair negotiation in FTF and CMC. Although some researchers have demonstrated that L2 learners were involved in repair negotiation about one-third of the time in task-based CMC, no research has directly compared the amount of repair negotiation in FTF and CMC (Smith, 2003; Pellettieri, 1999). However, by directly comparing the incidence of repair negotiation in FTF and CMC, this study found that FTF had a much higher incidence of repair negotiation than CMC, and that the higher amount of repair negotiation in FTF was primarily due to the higher rate of Echo in the FTF interactions.

Echo is a type of "indicator" that shows the listener's incomplete understanding by repeating the previous speaker's words, phrases, or sentences. According to the results of this study, Echo accounted for more than half of all the indicators of FTF repair negotiation, while it rarely appeared in the CMC context. The main reason for the higher rate of Echo in FTF was that listeners in FTF tended to use Echo to request a confirmation in order to check if they had heard correctly. However, in the CMC sessions, the participants could directly confirm the speaker's utterance from what appeared on the computer screen, making the use of Echo unnecessary.

This study also demonstrated that participants in CMC engaged in a similar amount of negotiated interaction as they did in FTF, even when they were not involved very much in repair negotiation in CMC. The data showed that the amount of all the Continuers (the "indicators" that elicit negotiated interaction) did not decrease even when the amount of Negotiation continuers (the "indicators" that elicit only repair negotiation) decreased in the CMC role playing activity (see Chapter 4 for more information on Continuers). This implies that a reduced amount of repair negotiation did not necessarily mean a reduced amount of negotiated interaction. Rather, different types of negotiated interaction became more active in CMC when the amount of repair negotiation decreased. The CMC participants still engaged in a similar amount of negotiated interaction with the FTF participants no matter whether the amount of repair negotiation increased or decreased.

This study also compared the qualities of L2 discourses in FTF and CMC. The quantitative results demonstrated that the qualities of L2 discourses were quite different in FTF compared to CMC. The CMC participants exchanged productive discourses more frequently than the FTF participants. This means that the CMC participants used more complex discourses that required a concern for form than the

FTF participants did.

The results were interpreted to suggest that more frequent use of productive discourses in CMC was mainly due to the intersubjective gap of CMC that was bigger than that of FTF. The CMC participants tended to add more contextual information to their messages in order to fill in the gaps of their understanding, which resulted from the lack of contextual cues, while the FTF participants were often able to deliver their meanings only with short and simple discourses. The intersubjective gap of CMC was advantageous to L2 learners in that it encouraged them to use productive discourses more frequently.

In a similar vein, the results showed that simple and formulaic discourses were used more frequently in FTF than in CMC. The data revealed that more frequent use of formulaic discourses in FTF was mainly due to the more frequent use of Echo in FTF. Echoes tended to elicit simple and formulaic discourses, because they were more often used to request a confirmation than to request a clarification. In FTF, the speaker and the listener exchanged many non-verbal cues on the topics that they were discussing, and they were often able to collect a lot of information to understand their verbal interaction through their gestures or facial expressions without depending on long elaboration. However, in CMC, the request for a confirmation was less important, because the participants could trace the sender's message from the computer screen.

Nevertheless, the intersubjective gap of CMC was also disadvantageous to L2 learners in that it made it difficult for L2 learners to pick up the communication skills from their previous CMC practice. The data showed that a practice effect occurred only in the CMC groups that had had a chance to practice the activities through the FTF. Those CMC groups used productive and interactive discourses more often than the groups that had not had a chance to practice the activity. However, the FTF groups who practiced the activity through CMC did not show much difference in their uses of productive and interactive discourses compared to the FTF groups that did not practice the activity.

The practice effect which occurred only in CMC seems to indicate that the participants were able to pick up the communication skills from their previous FTF practice that obviously contributed to the quality of their CMC discourses later. However, the participants who practiced the activity through CMC did not show any change in the quality of their discourses in their next FTF practices. In other words, a large intersubjective gap in CMC seemed to prevent the participants from learning the communication skills and applying their understanding to their next practices. Therefore, some familiarity with the activity through FTF seems to have contributed to alleviating the intersubjective gaps in CMC.

This study also compared L2 discourse patterns that illustrated the rates of individual participation and individuals' discourse roles in FTF and CMC. The study revealed that the L2 discourse patterns changed in every activity, regardless of activity types, communication modes, or the amount of repair negotiation. There was no specific pattern or prototype of L2 discourse changes that showed any relation with activity types, communication modes, or the amount of repair negotiation. The continuous change of L2 discourse patterns seems to indicate that L2 discourse patterns were affected by the joint influences of various factors rather than being influenced singularly by a specific preplanned condition.

7.1.2 The Factors that Affected L2 Discourses to Change

The examination of the qualitative data provided detailed information about some important factors that affected L2 discourses in each activity, which was not revealed through the quantitative method. Qualitative data showed that some factors that were revealed to have affected L2 discourse pattern were motivated by the characteristics of the communication modes, and that some other factors were provoked by other environmental conditions, such as the quality of negotiated interaction, the participants' discourse identities, and the participants' strategies.

One of the most important factors related to the inherent characteristics of the communication modes was the different turn taking systems in FTF and CMC. The study revealed that the lack of a regulated turn taking system in CMC produced a high rate of initiation and speedy progression of exchanging messages. When the three active participants played active Initiators in the FTF information gap activity, the discussion progressed actively in FTF. However, in the CMC information gap activity, when the three participants who were active in taking turns sent their information about their pictures at once, different topics appeared on the computer screen simultaneously, such that the participants could neither concentrate on each topic nor provide any supportive or negative feedback to the others' ideas or information due to the time pressure. Some topics in CMC passed by without being discussed at all, and many topics were discussed only superficially. Due to the lack of time, the participants often picked up the information that they needed from the computer screen without engaging in discussion with others to collect information.

Another important characteristic of the communication modes that affected the quality of L2 discourse was the presence of non-verbal cues. Because the CMC context did not provide the visual and audio cues, it often led the participants to formulate incorrect assumptions about each other's behaviors or utterances and made the participants produce several side narrations or off-topic talk in CMC. As a result, the participants were often distracted by the side narrations and off-topic talk, and the frequent presence of side narrations and off-topic talk made it difficult for the participants to engage in a deeper discussion of their main topic.

The third important characteristic of the communication modes that affected L2 discourse was the different language skills that were required in FTF and CMC. CMC provided the participants with low listening skills with better opportunities to participate in the group conversation. Since CMC did not require listening skills to become a full participant, CMC encouraged the participants with low listening skills to explore their other language skills and extend the scope of their language capabilities in the group conversation.

CMC also encouraged the non-confident participants in expressing themselves in English because it did not require them to be fluent at speaking English. CMC did not reveal how L2 learners speak English, and this encouraged the non-confident participants, who produced a lot of segmentation while they spoke in FTF, to use longer sentences in CMC because segmentation was not apparent.

However, CMC required the participants to have a certain level of reading skill in order to become a full participant in CMC. Reading skills were essential in CMC like listening skills in FTF. For successful interaction in CMC, the participants had to read the other messages, as they had to listen to the others in FTF. However, some participants who were only familiar with their FTF practices did not seem to understand that reading was an essential element for the successful CMC interaction. The fourth important characteristic of the communication modes was the different styles of interactive pattern in the two communication modes. In the FTF triad group interaction, when the initiator introduced a new topic, the responses from the other participants came in a linear pattern, while the triad group discourses in CMC often entailed diverse responses because of the multi-directional nature of the CMC interactions. No regulation of the turn taking system in CMC usually obscured who would be the next speaker, and this often made the other two participants respond at the same time.

Although the tendency of diversity in the CMC triad group interaction sometimes played an unfavorable role by resulting in many side topics and off-topic talk, it also tended to bring about much richer resources for discussion among the participants than the FTF triad group activity did. The participants did not stop their conversation in CMC at the end of the activity and used the full hour for building their story, while half of the groups in FTF changed their role playing activity into a free talking activity in the middle of their discussion, because of the lack of ideas to build the story. The group work in CMC provided the participants with rich ideas for a collective story.

Along with the factors that were related to inherent characteristics of the communication modes, this study also revealed that L2 discourses changed within the two communication modes due to some other types of factors. One of the most important of these additional factors was the quality of negotiated interaction. The transcript data demonstrated that Echo more often elicited simple responses from the other participants, rather than a long explanation, because Echo was usually used for requesting a confirmation rather than a clarification. When Echo was used for a confirmation, this meant that the participant already had some understanding of what the previous speaker had uttered and thus did not need to ask for a clarification. Likewise, when another participant used Echo to ask for a confirmation, the respondent spontaneously noticed that the other participant needed a confirmation rather than a clarification. Consequently, the respondent usually responded with NR, such as "Yes," or "Hm." This means that both the speaker and the listener had some understanding of what the other was talking about, and thus they supposed they did not need to exchange a long elaboration.

The quantitative results revealed that a high amount of Echo was used in FTF, while Echo was rarely used in CMC. The main reason for Echo to appear much more frequently in FTF was due to the rich contextual information in the FTF activities. The video tape data showed that the participants often delivered their contextual information through their gestures or behaviors while they were involved in negotiations, and this helped both of the participants' understanding about a topic that they were discussing. As a result, Echo facilitated the use of NR instead of PR, and the quality of discourse tended to be formulaic discourses whenever Echo was used more often. Therefore, the FTF activities that had a high rate of repair negotiation tended to encourage the participants to use simple and formulaic discourses much more frequently than the CMC activities that had a low rate of repair negotiation.

This study also showed that simple and formulaic discourse appeared more frequently in the information gap activity than in the role playing activity. One of the main reasons for this increased frequency in discourse was the nature of the information gap activity that intensified the use of Echo in FTF. The repeated pattern of the discourse that was used for exchanging information and finding the differences in pictures in information gap activity encouraged the participants to use Echo. Consequently, formulaic and simple discourses were used most frequently in the FTF information gap activity.

Even in the FTF role playing activity, Echo sometimes encouraged the use of formulaic and simple discourses but for another reason. When the participants were not discussing a genuine curiosity, Echo often elicited simple responses from another participant. That is, when the participants exchanged information that they had already known, pretending that they did not know the information for the role play, both the speaker and the respondent tended to use simple and formulaic discourses, because both participants did not need a deeper discussion about the issue that was being negotiated.

Another important factor that affected the discourse across the two communication modes was the discourse roles and identities that the participants assumed while they engaged in activities. The results showed that the participants had different ideas about their discourse roles while they engaged in a group conversation. Because the participants assumed a different identity about their roles, they played different discourse roles in activities. When a participant who controlled the conversation as a leader mainly played an initiator's role, his way of discourse severely discouraged the other participants from engaging in their discourse roles. On the contrary, when a participant who was the main controller of the conversation played a Continuer's role, her way of discourse affected the group discourse to become more elaborate and the group topics to be explored more deeply. The discourse role that each participant assumed not only affected the quality of group discourse but also the group dynamic to be different in each activity.

The participants' particular intentions and motivation also strongly affected the group discourses. The participants tended to develop their own strategies to become more fully engaged in the activity, and they also attempted to apply their successful strategies to their next practices. Their strategies often encouraged them not only to increase their participation in the group discussion but also helped them to engage in a better language practice when they applied their successful strategies in their next activities.

Nevertheless, a good strategy in FTF was not always advantageous to the participant who used the strategy when it was used in CMC, due to the lack of contextual cues. The successful strategies in FTF did not always help the participants to have better language practice when they were applied to the CMC activities. For example, one participant developed strategies for drawing the other participants' attention to his topics in FTF, but he was not successful in drawing the others' attention to his topics in CMC using the same strategies. Since his strategies did not work in CMC due to the different environmental conditions, his participation became severely limited.

A participant's intentions sometimes affected the group discourse in a way that was somewhat disadvantageous to the other two participants. For example, one participant had a strong intention to accomplish the task successfully and developed some strategies to organize the group discourse. Her strategies provided the other participants with some guidelines on how they could build their stories while they engaged in the FTF role playing activity. However, in the CMC role playing activity, the participant's strong intention and strategies led the other two participants to be less active in the discussion. A good strategy that helped the group to build a good organizational integrity in FTF created a hindrance to the group conversation in CMC.

7.2 Implications of the Study

7.2.1 Implications for Task-based Interaction

Until recently, there have been contradictory claims about L2 discourses in two different types of tasks: open-ended tasks and closed tasks. Closed tasks require learners to arrive at a single correct solution, while open tasks have no single predetermined solution. In the past, many researchers believed that more negotiation was better for L2 learning, and they claimed that closed activities (particularly information gap activities) that promoted a greater amount of repair negotiation were good for L2 learning because such activities require a highly constrained outcome and, consequently, require precise production of L2 language. They also claimed that more open-ended conversation provides relatively few opportunities for L2 learning, compared to controlled tasks, because the interlocutors tend to avoid using language that causes communication difficulties, bypassing repair negotiation (Long, 1983, 1989).

However, recently, some researchers proposed a different view from the above claims. For example, Nakahama, Tyler, and Lier (2001) claimed that open tasks are superior to information gap tasks because they require the learners pay close attention to and relate their utterances to the context of the others' utterances and of the topics discussed. These two different views seem to be produced due to the different focus of research – the focus of the former was on the negotiation of meaning and the latter was on other factors such as the turn length and the utterance complexity. These contradictory results required conversation to be studied in much more detail as a potential source of learning opportunities (Nakahama, Tyler, & Lier, 2000)

Inspired in part by these contradictory views, this study examined the discourses of L2 participants who were engaging in tasks and demonstrated that L2 participants used different discourses in two specific types of tasks: information gap and role playing. Information gap activities are closed tasks that require learners to arrive at a single correct solution, and role playing activities are open tasks that have no single predetermined solution.

The results of this study raise questions about the claims that highly structured interactional activities provide much better language practice than more open-ended conversational activities did. According to the results, the participants exchanged simple and formulaic discourses containing one or two lexical words more frequently in the closed activity than in the open-ended activity. This study also showed that the participants used productive discourses more frequently in the open-ended activity than in the closed activity. This means that the high amount of repair negotiation itself did not necessarily encourage L2 learners to use elaborative and productive discourses, but neither does it guarantee a good quality of interaction.

In addition, this study also suggests that different tasks encourage L2 learners to process language differently. Widdowson (1989) claimed that language users have available dual modes of processing, and language users can switch between the two modes to take account of the processing demands in a different situation. He also argued that L2 learners use a lexical mode of communication when accessibility and time pressure are high. On the contrary, when exactness or creativity is highly required, a concern for form becomes predominant (Sinclair, 1991).

In line with Sinclair's (1991) claim, this study found that the open-ended tasks that require creativity encouraged L2 participants to use more productive discourses. However, this study raises the question of whether a task that requires exactness of language production also encourages L2 participants to use more productive discourses. The result of this study demonstrated that L2 participants tended to use a lot of formulaic discourses in the information gap activity that requires exactness of language production. Even though the activity may increase the concern for form from L2 participants, it did not encourage them to use more productive discourses.

7.2.2 Implications for Negotiation of Meaning

Over the past 20 years, the context-free nature of interaction theories has been prevalent in SLA, and an extensive amount of research in SLA was performed concerning the investigation of negotiation of meaning among L2 learners. According to this previous research, the negotiation of meaning provides learners rich opportunities to adjust their language and thus render the input comprehensible, regardless of the other contextual factors affecting the interaction.

Nevertheless, in CALL, it was only after 2000 that research on negotiated interaction in the CMC environment began to appear as a new and interesting concept. Since then, negotiated interaction has also been one of the principal topics among many CALL researchers (e.g. Sotillo, 2000; Kitade, 2000; Toyoda 2002; Blake & Zyzik, 2003; Pellettieri, 2000; Smith, 2003). Because the concept of 'negotiation of meaning' in SLA was still employed as collaborative work only for discourse repair, SLA and CALL investigating "negotiation of meaning" has mostly focused on repair negotiation.

Recently, however, there has been a critical introspection of the interaction theories that treat student discourse as the result of encoding, decoding, and modifying internal representations of the new language (Firth & Wagner, 1997; van Lier, 2000; Nunan, 1992; Foster & Ohta, 2005; Liddicoat, 1997; Brooks and Donato, 1994). The encoding-decoding perspective stressed problems and difficulties that L2 learners encounter while they engage in their interaction, and failed to capture how utterances interact with social realities, ignoring the other contextual factors affecting the interaction, such as the role of individual interests and motivation (Harrington and Levy, 2001).

In addition, the investigation of successful communication where communication breakdown does not occur has been disregarded in SLA research due to its lower saliency (Firth and Wagner, 1997). Nakahama, Tyler, and van Lier (2001) argued that L2 learners do considerable linguistic work without an instance of communication breakdown. Therefore, considering the large portion of the L2 interaction where communication breakdown does not occur, the examination of L2 interaction needed to be expanded to embrace all their negotiated interaction occurring in their conversation beyond repair negotiation.

Therefore, unlike the previous research focusing only on repair negotiation, this study investigated all the utterances that elicited the negotiations from the other participants. In other words, this study examined all the utterances functioning to elicit responses from the others and expand the current topic for further discussion. The results demonstrated that all the negotiated interaction in an L2 group discussion did not decrease even when the amount of repair negotiation decreased. Rather, the other types of negotiated interaction became more active when the amount of repair negotiation decreased. This means that L2 participants were usually involved in a certain amount of negotiated interaction in a conversation, regardless of how much repair negotiation occurred.

Moreover, this study also demonstrated that the high amount of repair negotiation was not necessarily advantageous to all the L2 learners. In the past, many researchers believed that more negotiation was better for L2 learning. However, this study found that a higher amount of repair negotiation tended to encourage L2 learners to use more formulaic discourses and less productive discourses. This result concurs with some researchers' concern that communication breakdowns are more likely to occur with problems of lexis rather than morphosyntax (Foster & Ohta, 2005; Sato, 1986; Foster, 1998; Pica, 1992; Pica et al. 1993, Nakahama, Tyler, & van Lier, 2001).

In addition, a high amount of repair negotiation in an activity did not necessarily guarantee that all three participants were highly involved in the negotiation practice. Some learners purposely avoided interrupting to request clarification or repetition of things that are not clear, because of the fear of loss of face (Foster, 1998; Allwright, 1989, 1996; Foster and Ohta, 2005). Even though there was a high amount of negotiation in any given activity, this study showed that some participants were rarely involved in those negotiations for reasons such as low motivation, low English skills, and inappropriate uses of strategies.

Wenger (1998) offers a view of negotiation of meaning that differs substantially from the traditional SLA view. According to Wenger (1998), negotiation of meaning is the process by which we experience the world and our engagement in it as meaningful, and living itself is often a constant process of negotiation of meaning, because we derive meanings even from routine activities like talking, acting, thinking, solving problems, or daydreaming. However, he also argued that we formulate true meanings when we are involved in activities that we care about or that present us with challenges.

In this sense, negotiation of meaning is not produced from the mechanical performance of a specific activity that is known to be good for creating a high amount of negotiation of meaning. The L2 learners can only engage in negotiation of meaning when they are involved in the experience of negotiation that the various language practices provide, by struggling to express a specific meaning to others, by trying to understand others, by evaluating their second language. Therefore, negotiation of meaning in this sense should not be examined in terms of the quantity but in terms of the quality. The examination of the quality of negotiation would provide a better insight to understand L2 interaction.

7.2.3 Implication for Changing L2 Discourse Patterns

This study also demonstrated that each group discourse pattern constantly changed in every activity, regardless of the amount of repair negotiation or activity types. A group that showed a symmetric participation pattern in an activity also showed an unbalanced participation pattern in a different activity. Likewise, the same activity produced good collaboration in one group and dissonance in another group. Even in the same communication mode, some groups used a great deal of elaborated discourses in an activity, while other groups used limited discourses in the same activity. Although they were doing the same activity with the same communication mode, the results of their performances and discourses were different in every situation.

The continuously changing L2 discourse pattern seemed to indicate that L2 practices were not singularly conditioned by the influences of a specific factor, such as an activity type. As van Lier (2000) pointed out, the totality of meaning making in the conversation is not merely linguistic; it is semiotic, and language emerges out of the semiotic activity. Therefore, interaction is not a static change of information, but a dynamic process which is much more fluid and dependent on the social context, and the nature of the activities changed from one moment to the next, from one group to another, despite the fact that all of the participants engaged in the same task. All the tasks that were assumed to be effective for producing good language practice yielded different L2 discourse patterns, because what ultimately mattered depended on how individual participants engaged with the task and how they interacted socially with others.

In this sense, a good conversational practice for L2 teaching and learning did not necessarily seem to entail an effective activity that was supposed to generate a lot of negotiated interactions or an ideal communication mode that was supposed to facilitate effective language learning. Rather, it seemed to entail various interactional and social experiences that helped group members to become full participants in L2 conversational practices. The various experiences seemed to help the L2 learners develop themselves into full participants who knew how to maximize the chances of their participation in any situation.

This study showed that, through the conversational activities, the participants practiced their language and learned to become effective and efficient communicators. While the participants engaged in the activities, they learned to develop their strategies to become better participants, and they also tried to apply those strategies to different activities. Through practice, they also learned to accomplish the goals of the task effectively by organizing the discussion, by adopting a specific discourse role, and by using all the resources that were available.

However, all the language practices were not always advantageous to the L2 learners. Reliance on comprehension and communication strategies may be over-effective so that solutions to communication problems become proceduralized and re-used on other occasions, constraining the different varieties of interaction. As a result, the quality of learner language during a task tends to be less than what the learners are actually capable of producing (Higgs & Clifford, 1982; Seedhouse, 1999; Skehan, 1992).

For example, goal oriented practices, such as the information gap activity, sometimes encouraged the participants to simplify their discourses in order to communicate efficiently and this tendency appeared more intense in the CMC information gap activity for some groups. The L2 learners strategically chose to communicate simply to minimize confusion and to complete the task efficiently, at the expense of their learning.

Therefore, providing L2 learners with good conversational practices does not simply mean providing L2 learners with various conversational experiences. It means helping them to have opportunities to perform good language practices through conversational experiences. In this sense, additional disadvantageous practices that encourage L2 learners to use simple discourse or that severely hinder L2 learners from using L2 should be identified in future studies. Furthermore, instructors who organize group conversation for L2 teaching and learning should understand the constraints that may affect certain participant discourses in a group, and thus minimize the factors that may significantly impede a particular participant's good language practice in conversational activities.

7.2.4 Implications for employing the CMC Triad Group Conversations for L2 Learning

Many recent CALL studies have stressed the apparent prominent advantages in using CMC for L2 learning (Beauvois, 1992; Chun, 1994; Kelm, 1992; Kern, 1995; Kitade, 2000; Ortega, 1997; Pellettieri, 2000; Sullivan & Pratt, 1996; Warschauer, 1996). There is no doubt that the CMC communication mode is a powerful and effective medium for L2 learning, even though most of the potential has yet to be realized. In particular, synchronous CMC has attracted the interest of many researchers and practitioners because it possesses many innovative features beyond those of FTF, in addition to sharing some common features with FTF interaction. Thus, most recent CALL studies focused on the comparison of CMC and FTF dyad interactions, and they reported primarily on pedagogical aspects of the synchronous CMC interaction.

In particular, a growing number of SLA studies that were influenced by sociocultural perspectives began to examine individuals' various motivations, orientations, and goals during small-group interaction. Donato (1988) argued that the goal of the learning activities is determined by the learners themselves and only the learners can determine the types of knowledge needed to serve personal needs and motives for a particular activity. Lockhart and Ng (1995) also argued that the dynamics of a learning process may be influenced by various factors, such as students' level of understanding, their language skills, and their perceptions of the purpose and value of the task.

SLA researchers influenced by sociocultural perspectives have also investigated the nature of dyadic interaction in ESL classrooms (e.g. Storch, 2002, 1995; De Guerrero & Villamil, 2006, 1994; Donato, 1988; Lockhart & Ng, 1995;

Saunders, 1989). Their studies suggest that the social context is a crucial space where learners establish certain relationships through the process of collaboration.

However, in the field of CALL, there are a very small number of studies that have examined CMC interaction from the sociocultural perspective (e.g. Darhower, 2000; Jeon, Ellis, Debski, & Wigglesworth, 2005; Lee, 2004). In particular, the pedagogical advantages of CMC group work of more than two participants have rarely been investigated until now, even though the group work of three or more has often been employed by many educators and instructors using FTF approaches. The tacit assumption was that CMC group interaction of more than three participants would be complicated and difficult to use for L2 teaching and learning practice.

Nevertheless, the CMC triad group interaction is an area that should be investigated more in the near future. It has been known that the various types of group work have their own advantages, and each type of group work has been used extensively in FTF classrooms in ways that correspond to the instructional purposes. However, little has been known about the characteristics of the different types of group work in CMC due to the lack of research in this area. In this sense, this study, which examined the CMC triad group interaction, suggests pedagogical insights to expand the scope of L2 learning through CMC.

While comparing L2 discourses in FTF and CMC through this study, it was revealed that the CMC triad group interaction was different from the FTF triad group interaction in many ways, and that each mode offers advantages and disadvantages for language classrooms. As expected, compared to the FTF triad group interactions, the CMC triad group activities were more difficult and challenging because of the complicated nature of interaction among three participants. Moreover, these difficulties seemed to be more intensified because of the participants' unfamiliarity with CMC triad group conversation.

To summarize the disadvantages of the CMC triad group interactions, the CMC triad group activities often made the participants engage in several topics at the same time, because the different turn taking system in CMC that typically has no regulation, allowed all the participants to speak whenever they wanted. Since several topics were often displayed on the computer screen simultaneously, participants became extremely busy reading the constantly-appearing messages as well as typing their responses to each message. Time pressure and too many messages sometimes overwhelmed the participants and, as a result, many topics did not get a response from the other participants, or were only discussed superficially.

In the CMC triad group activities, it was also difficult for the participants to concentrate on one topic because of numerous distractions from side topics. Due to the lack of visual and audio cues, it was hard to know whether the discussion of a topic was finished, and thus a second topic often appeared before the discussion of the first topic was over. For the information gap activity, the first topic and the second topic were often discussed together, and this made it difficult for the participants to engage in a deep discussion on one topic.

For the role playing activity, a misunderstanding among the participants easily occurred in the middle of a discussion of a topic because of the lack of contextual cues. For example, no response from a participant made the other participants talk about his or her absence. Moreover, the use of computer ID codes, rather than names, led to identity confusion. Once the misunderstanding occurred, the participants developed a side topic to address their misunderstanding. As a result, the discussion of the first topic was delayed until the discussion of the side topic was over.

The CMC activities also required the L2 participants to have some prior level of reading skill as well as good typing skills in order to become a full participant in the

CMC activities. In particular, reading skills were an essential component in CMC, as listening skills were in FTF. When the participants tried to interact with the others without reading the others' messages, it often caused a serious distraction to the group discussion, or the discussion occurred only between two participants who were good at reacting quickly.

CMC also required some time and patience for the group interaction. In order to get a full exchange that involves the FTF conversation pattern of initiation, response, continuer, and feedback, the participants had to wait until the others typed their messages and sent them back to them. However, many participants in CMC tended to initiate a new topic rather than simply waiting for the others' responses, and this was why the initiation rate was very high, and the Negative informers who did not show any relatedness with the others' messages occasionally appeared in CMC.

The CMC activities also needed intense and continuous attention from the participants, because the CMC activities did not easily allow the participants to do two jobs at the same time, such as looking at their picture and reading the others' utterances or typing their utterance. In FTF, the participants could look at their pictures or engage in other behavior while listening to the others, and participants were able to respond quickly when the other participants asked a question, even if the respondent was doing something else. However, in CMC, the participants could not respond when they were engaging in other behaviors, and this condition often created a misunderstanding among the participants because they could not see what each other was doing.

Nevertheless, the CMC triad group interaction also had some advantages. The CMC triad group discourses often entailed diverse ideas. For example, in CMC, because its configuration had no restrictions on taking turns, one particular idea often elicited diverse responses containing different interpretations and ideas, while only one idea was usually elicited in FTF because of its linear interaction configuration. The tendency for diversity in CMC brought about rich discussions.

The CMC triad group interaction did not require the participants to have listening skills, and thus provided the participants who had lower listening skills an equal opportunity to participate in the activities. In Korea, many foreign language learners have relatively lower listening skills because of the form-focused teaching practice and, in this study, those participants who had an unbalanced English skills were often constrained from practicing their foreign language in FTF activities because of their poor comprehension of the ensuing discussion. In this sense, the CMC interaction was helpful in broadening their scope of participation as well as to explore their potential capabilities.

The CMC activities also increased the participation of less fluent participants who showed a high degree of segmentation and pausing in their spoken utterances. This segmentation seemed to indicate that they kept thinking while producing utterances. However, the frequent appearance of the segmentations often discouraged the participants from expressing themselves in the FTF activities, because in addition to taking more time than it did for other participants, the experience of segmentation was stressful in front of the others. As a result, participants experiencing segmentation often chose to reply with simple responses instead of a longer sentence in FTF. However, in the CMC activities, segmentation was not apparent, and this phenomenon allowed those learners to become fuller participants within the CMC context.

For the quality of discourses, this study demonstrated that there was an important difference in the discourses of CMC and FTF. The participants used productive discourse more frequently in CMC than in FTF. This means that the participants provided their information more voluntarily and their sentences were longer and more elaborate in CMC than in FTF. The amount of simple and formulaic discourses was also much smaller in CMC than in FTF. The L2 discourses in CMC were more often compact and informative, because the participants tended to write more contextual information in a message in CMC in order to narrow their intersubjective gap. In short, some amount of intersubjective gap among the participants in CMC was conducive to increasing the participants' uses of productive discourses in L2 interaction.

However, this study also showed that an extreme intersubjective gap in CMC prevented the participants from learning the communication skills in their practices and applying them to their next practices. The groups which practiced the activity through CMC did not gain an increase in their next practices in FTF, while the groups that practiced the activity through FTF used productive and interactive discourses much more frequently in their next CMC practices. In other words, no prior experience of the activities could create an extreme intersubjective gap among the participants, which was disadvantageous to the collaborative group interaction in CMC. Therefore, pedagogically, some experience through FTF to be familiar with the activity seems to be vital to the group interaction in CMC.

7.2.4. Implications for Future Research

First, this study suggests that future research should focus more on the quality of negotiation. This study showed that a higher amount of negotiation tended to encourage more use of simple discourse rather than improve the quality of L2 discourse. Since the amount of negotiation did not explain the quality of L2 discourse, more investigation of the quality of L2 negotiation is needed, such as when and why L2 learners use more productive discourse or a simple discourse during their negotiation. This study revealed that Echo often elicited simple responses from the participants, and rich contextual information and no genuine interaction were one of the main factors that entailed Echo. However, future studies should further identify and examine more factors that increase the quality of L2 negotiated interaction.

Future research should also examine the different types of negotiated interaction, not focusing only on repair negotiation. According to previous findings, repair negotiation accounted for about one third of the L2 interaction, while the rest of the interaction was related to the collaborative progression (Smith, 2003). This means that the L2 learners spent much more time engaging in different types of interaction other than repair negotiation. This study demonstrated that the amount of all negotiated interaction did not change even when the amount of repair negotiation decreased. The participants still engaged in other types of negotiation even when they were not involved in repair negotiation. Furthermore, the other types of negotiated interaction were present more actively when the amount of repair negotiation decreased.

This study did not particularly categorize the other types of negotiation, but the participants usually seemed to engage in the other types of negotiation for collecting more information, requesting feedback, suggesting, assuming, and confirming. However, a more systemic research effort is needed to investigate what types of negotiations the participants make when they are engaged in negotiations other than repair negotiation, how those negotiated interactions contribute to the L2 group discussion, and how they are related to their L2 learning.

The advantages of the group collaboration and cooperative learning have long been emphasized in all education disciplines, and there is no doubt that the CMC group work will be one of the important areas that need to be explored in the field of ESL and EFL. Although there have been extensive technological developments in CMC over the last five years, including various Web-based interactive tools and programs, these programs are mostly used for a lecture format or for larger group discussions rather than for small group activities.

Through the examination of the discourse of six groups engaged in FTF and CMC, this study sought to reveal how the CMC triad group interaction was effective for L2 language learning. The result showed that the CMC triad group interaction was difficult and challenging because of some disadvantages that strongly hindered the effective communication of the triad group. These constraints seemed to have prevented the development of synchronous CMC from evolving as an effective tool for the group work, and, as a result, synchronous CMC for small group work still remains mostly on the stage of dyad interaction. Even in asynchronous CMC, for example, email exchange and group work still had problems because of incoherent dialogue from one member to the next as well as ambiguities in the interpretation of written material, particularly in the absence of any immediate and direct clarification of issues (Alpay, 2005).

For the effective utilization of CMC group work, new adaptive approaches that can reduce the disadvantages of the group work in both synchronous CMC interaction and asynchronous CMC interaction should be explored. For example, social online network programs, such as Facebook or Nexopia, may be potential configurations that can support group work in the future. These systems have become immensely popular among adolescents and young adults recently because of the feature that seeks the go-between for the synchronous CMC and the asynchronous CMC. Through this web-based program, individuals can build their own mini web pages, and they can make a small community by networking friends through these mini web pages in which people constantly exchange their ideas by posting statements and pictures and by leaving notes to others.

Although CMC shares some common features with FTF, CMC essentially takes a different communication mode from FTF in that it holds many of its own unique features. Therefore, it may be poor judgment that good CMC activities for L2 learning could be based on good examples of FTF activities for L2 learning. This research revealed that one of the most powerful advantages of CMC interaction was its richness. This richness is an advantage that is a valuable asset to group work in L2 learning. Thus, rather than struggling to find a substitute to make up for the FTF features that are missing in CMC, it is critical for future research to give careful attention to the questions on how CMC influences the learners' language, behavior, and their relationship, as well as to develop CMC group work practices that focus on learners as agents, who have different motivation and interest. Liddicoat (1997) made another important observation that confirms the need for research concerning the role that individual identity plays in inter-communication among L2 learners. He emphasized the need for a more sophisticated understanding of what is meant by interaction and of the relationship between interaction and social context. In particular, "there needs to be a more careful discussion of the identities available for participants in a particular interaction" (p. 316).

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THE QUESTIONNAIRE

This is a survey of ESL learners' experiences with activities using computer mediated communication (CMC) and face-to-face communication. Your response will be greatly appreciated. Please check the appropriate responses or provide a written answer to the questions. The data will be gathered for this research only, and that the anonymity of the respondents will be maintained at all times.

Part 1: Personal Information

1. Age: ___________________
2. Sex: ________ Male __________ Female
3. What is your native language? ____________________
4. In which country is your birthplace? ______________________
5. How long have you lived in Canada? ______________
6. How long have you studied English? ____________
7. How long have you taught English? ______________

Part 2: Use of Computer

1. Do you have a computer at home?

______ No

______ Yes

2. Do you have internet access at home?

______ No

______ Yes

3. I use the computer approximately _________ hours per week.
4. For what purposes do you usually use a computer?

__________ email

__________ Internet searching (information)

__________ meeting people

__________ web posting

__________ typing and editing

__________ other. Please specify_____________________________

Part 3: Experience of CMC and Face-to face communication activities

1. Have you been interested in learning English by using a computer?

______ No

______ Yes

2. Have you tried some activities through computer-mediated communication (CMC)? (If you haven't, please go to the Part 4)

______ No

______ Yes.

3. If you tried an activity through computer-mediated communication (CMC), which tool did you use?

_______ email

_______ bulletin Board

_______ chatting

_______ other what was it ______________________________

4. If you tried an activity through CMC, what activities did you try?

____

____

____

Part 4: Feedback about the Sessions

1. How did you like computer-mediated session? I liked it:

______ very much

______ somewhat

______ uncertain

______ little

______ not at all

If you liked it, why did you like it?

____

____

____

If you didn't like it, why is it?

____

____

____

2. Everything being equal, which would you prefer, the online chatting activities or face-to-face chatting?

________ online chatting activity

________ face-to-face chatting activity

Why do you think so?

3. What were the difficulties for you in doing the activities?

(online chatting activities)

(face-to-face chatting activities)

4. Do you believe that technology will bring positive effects to learning English?

________ No

________ Yes. What kind of positive effects?

5. Do you want to try any other similar activities using a computer?

________ No. Why not?

________ Yes. Why?

6. Any additional comments regarding the use of computers in ESL, or regarding this survey.

V. Information/Consent Letters

Kyeoung Sook Kim
Department of Secondary Education
341 Education South
University of Alberta, Edmonton, AB
T6G2G5

December 17, 2006

Dear Participants:

The purpose of this letter is to seek permission to have you, ____________, participate in the second phase of data collection of the research project I am conducting. The reason that I need to seek the subsequent data collection is to examine the participants' conversations and experiences in the computer-mediated class and the oral class more deeply, and to find the pedagogical qualities of the interactional discourses of CMC based activity and the face-to-face communication-based activity.

The primary mode of the subsequent data collection for this study will be the participants' drawings and their notes, as well as the interviews through emails. After the participants review the video tapes and the computer transcripts that were recorded in the first phase of data collection, their drawings, notes, and interview responses will be collected through emails

If you agree to participate in this project, _________________ identity will not be revealed. To ensure confidentiality and anonymity, all materials will be copied and kept secure at the school. Your name will NOT be used in the research report.

It must be made clear that you are under no obligation to participate and has the right to opt out of the project. There will be no penalty or prejudice against those who opt out. If for any reason you wish to withdraw your consent at a future time you may do so. All material collected will be handled in compliance with the University of Alberta Standards for the Protection of Human Research Participants. I will do not reveal the content of conversation for other than academic purposes for my dissertation research.

If at any time you have questions or concerns you may contact me directly at the school at 780 405-6870.

This study has been reviewed and approved by the Faculty of Education and Extension Research Ethics Board (EE REB) at the University of Alberta. For questions regarding participants rights and ethical conduct of research, contact the Chair of the EE REB at 780 492 3751.

Sincerely:

Kyeoung Sook Kim

Research Consent Form

Principal Investigator: Kyeoung Sook Kim

kk5@ualberta.ca

I (the undersigned) ______________________ understand the nature and purpose of this research project and give my permission in a free and informed manner to participate in it.

I understand that I may withdraw this permission at any time without loss of benefit, penalty or prejudice. I understand that I will be able to review and request changes/deletions to the way the material is integrated into the final research report.

I understand that all materials collected will be kept secure in strict confidentiality. I further understand that only Kyeoung Sook Kim, as principle investigator, and his graduate advisor, Dr. George Buck, will have access to this information. I understand that the drawings, notes, and interview responses may be used in the publication of research articles or for presentation at academic conferences. I also understand that the materials will kept securely for five years after the research has ended and after that time will be destroyed or erased.

Researcher: Kyeoung Sook Kim

Signed: ____________________________

Date: ________________________________